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For The Commodore

Volume 7 No. 12 December 1992
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1992 Reader's Choice Awards

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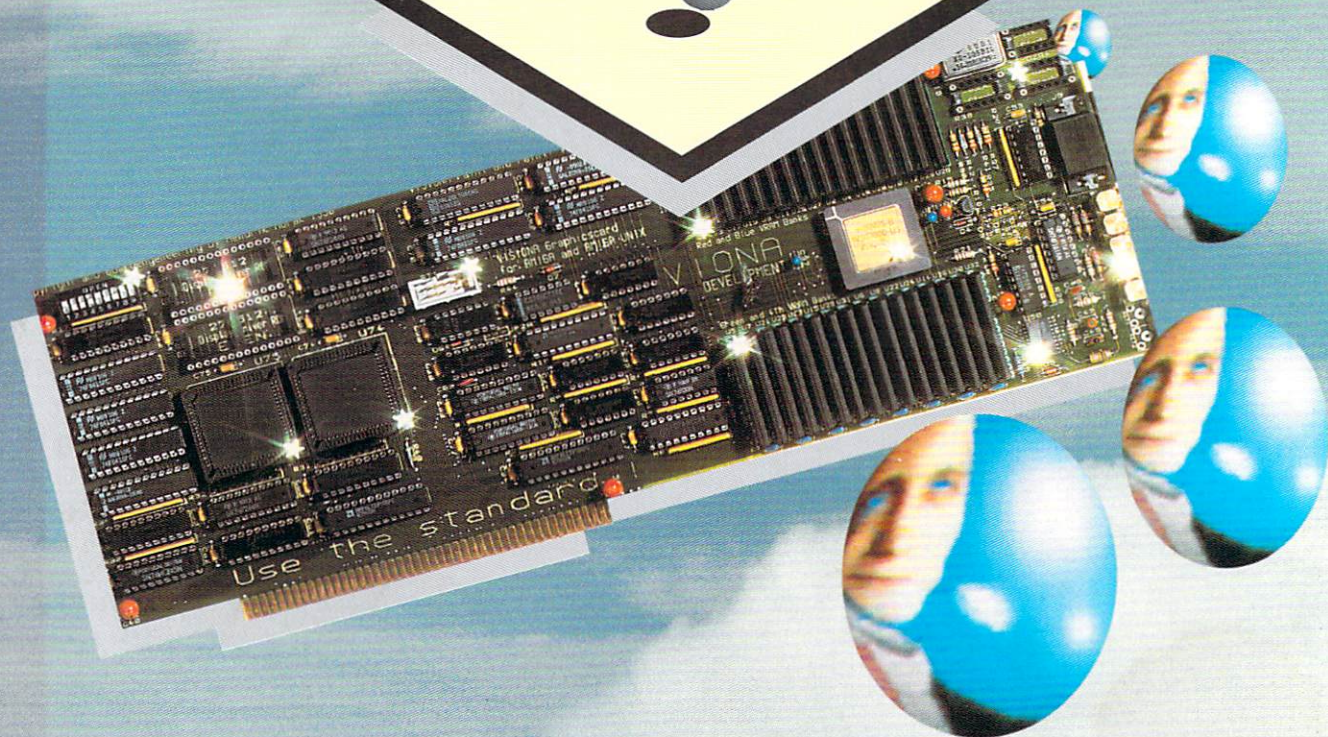
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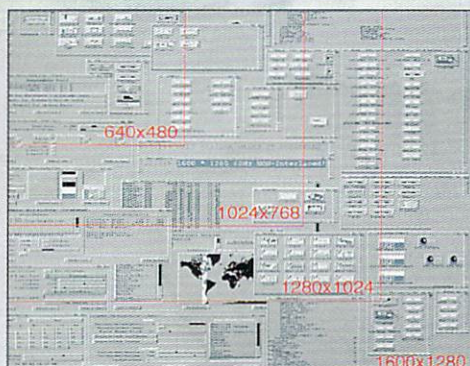
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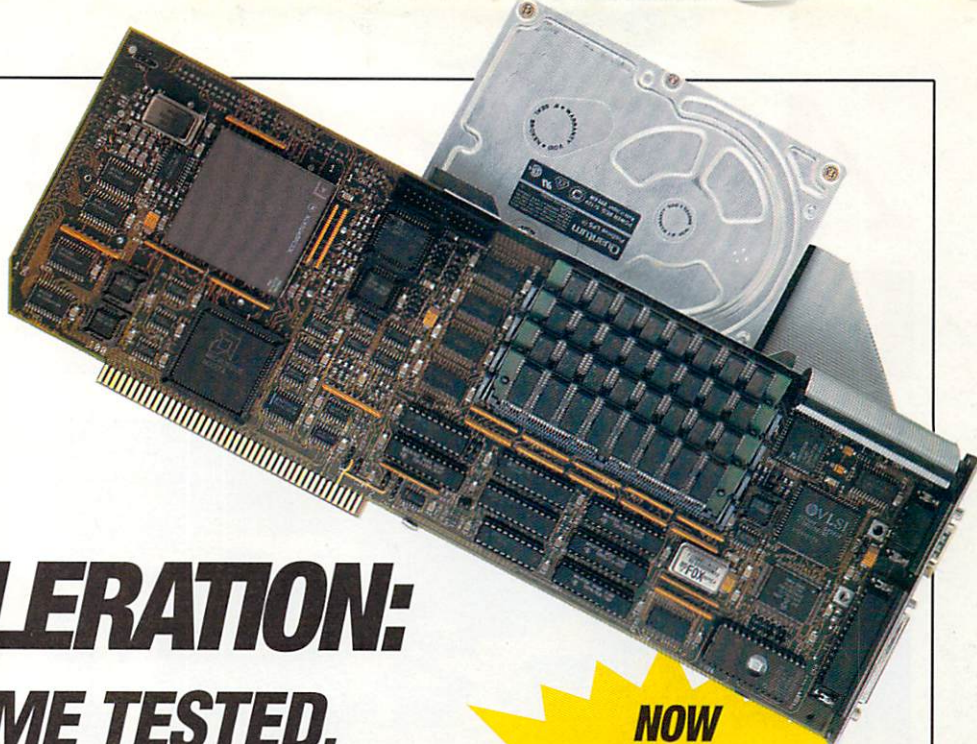
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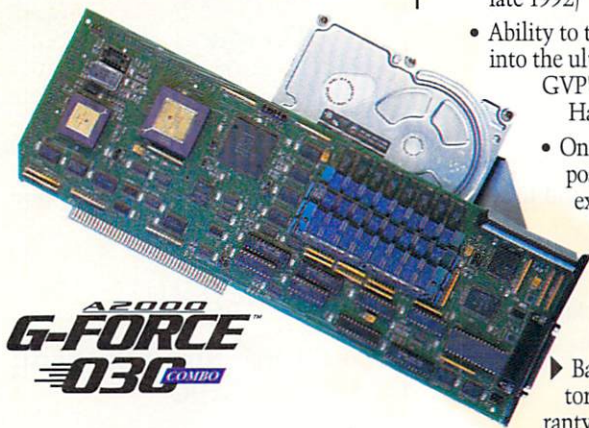
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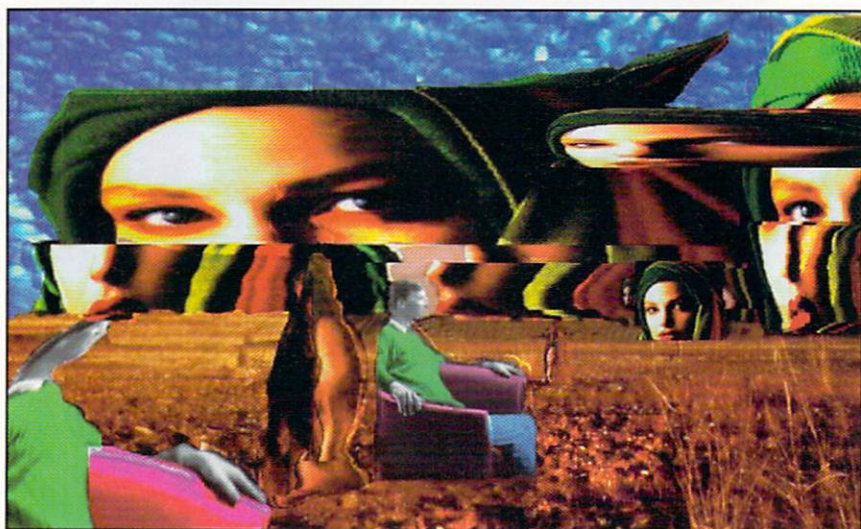
For The Commodore

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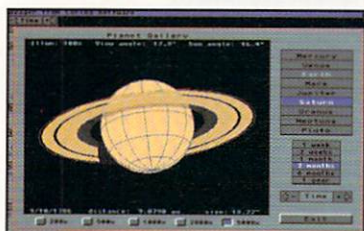


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December 1992

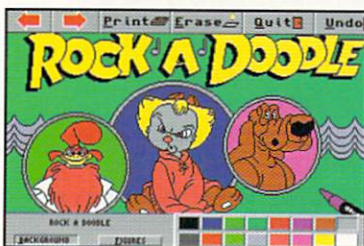
Cover photograph by
Rick Hess



An image created by AC's Elizabeth Harris in **OpalVision** from *Centaur Software*. Elizabeth altered the original image by using OpalVision's Brush Wrap area-Fill Mode, Rub Through, Gamma, and Color effects—and by adding cut brushes.



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from Carina Software



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And the
winners
are...



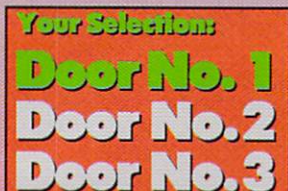
AC readers have chosen
this year's recipients of
the Amiga's most
prestigious award!



True Print/24
Produce beautiful continuous tone and color prints with ASDG's new 24-bit printing utility, **True Print/24**. See this month's **New Products**.



Composite ToasterFrame created with ASDG's **Art Department Professional** from this month's **Video Slot**.



Interactive screen using text that are buttons with **GOTO** commands attached. See this month's **ARexx** column.



This month's **Hot Tips** offers tips on **SimAnt** from **Maxis** and more!



Megafortress
from **Three-Sixty Pacific, Inc.**

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Work by Artist Harry O. Morris, created on an Amiga 2000, from this month's **And Furthermore**.



AC congratulates over 30 Reader's Choice Award winners from all aspects of Amiga computing. See page 48.

GVP Introduces G-LOCK

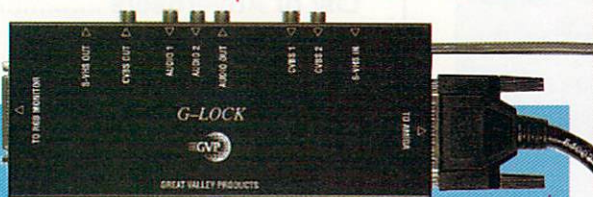
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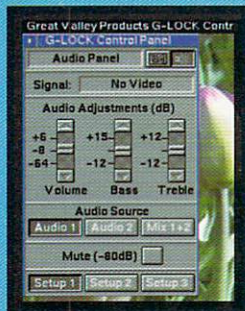
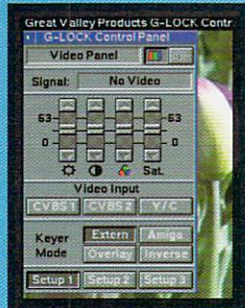
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EDITORIAL CONTENT

December. Well, not quite yet.

Like most magazines which are prepared early to appear new and current, this December issue of *AC* should (nothing is ever certain in this business) arrive on the newsstands between November 9 and November 13. Subscriber copies will be mailed by October 29, with arrival the week of November 2 (please remember that this is what the postal service states will happen, and most of the time it does). With the added necessities of printing, preparation, arranging, etc., and discounting the fact that this part of the magazine is always the last item to be completed, I find myself writing this editorial in mid-October.

The air has just started to turn cold here in New England and the Presidential election campaigns are in full swing—which brings me to our own Vote Amiga '92 and *The Amazing Computing Reader's Choice Awards*.

Originally we had planned to announce these in *AC*'s October issue; however, we extended the deadline for entries to give our readers more time to respond. *AC*'s readers did not disappoint us. The ballots were streaming in through the deadline and we were extremely busy tabulating the information. Unfortunately, there were problems.

What to do next time

While we are extremely proud of the result, we will do next year's balloting differently. First, we will start earlier in the year so that the 1992 awards do not need to appear in the December issue. Second, we will revise the ballot to be less confusing to both the voter and the poor person doing the tabulations.

Our special thanks to the many readers who voted and sent us their comments. Each response is being forwarded to the appropriate person at the company or companies you noted. Almost all of the ballots contained at least some comment. Your opinions will be heard.

Commodore's success

This is the first issue in the past three that has not featured a new Amiga for a cover story. With the added effort by Commodore, we were not able to place the awards in the November issue, so we moved them to the December issue. While this did delay the announcement, it takes nothing away from the importance of these awards. In fact, with the new computers from Commodore, it is appropriate that the awards be presented now as an introduction to a new level of Amiga computing. All of us at *AC* offer our congratulations to the winners and our sincere thanks to all of our readers who voted.

That other election

I must apologize to our foreign readers as I discuss a subject known to those of us in the United States. This year we have witnessed the different styles and techniques of individuals who would aspire to become the

President of the United States. While Governor Clinton and President Bush have followed the more traditional forms of rallies, speeches, and personal appearances, the independent H. Ross Perot has taken a very different path.

Mr. Perot's bid for the White House began unconventionally as an answer to a question posed to him on CNN's *Larry King Live*. It was fitting that this run for the presidency began on a national cable television show since, from that point on, Mr. Perot has used the medium of television to promote his ideas and his platform to the American public.

While Governor Clinton began his national campaign with bus trips to rally his supporters and President Bush turned to a

red lettering over a black background sufficed, how much more punch would have been delivered if photographic backgrounds were used to illustrate his points for each section.

Some could suggest that the highly active Mr. Perot needed no other props to illustrate his point. It could also be argued that Mr. Perot's energetic style and rapid-fire delivery would have suffered when sifted through the added presence of computer imagery.

Needless to say, by the time most of our readers receive this issue, they will have already voted and our leaders for the next term will have been selected. Whether he wins or loses, Mr. Perot's charts will become a part of history, his approach to the American political system will be noted with interest, and his

H. Ross Perot is a perfect example of someone who needs an Amiga.

"whistle stop" campaign by train reminiscent of times past, Mr. Perot chose a combination of infomercial and mini-series. Mr. Perot purchased prime time on each of the networks to discuss his ideas. In doing so, Mr. Perot utilized technology to communicate his ideas directly to the voters. However, I believe he could have gone further.

H. Ross Perot is a perfect example of someone who needs an Amiga. Here is a man spending millions of dollars of his own money to air several television shows to explain his bid for the United States Presidency. Sitting behind a table (or desk), Mr. Perot looks into the camera and tells viewers what he believes the United States should do to cure its problems. To illustrate his points, he uses charts and graphs that he has smilingly said he created himself. The charts are in color and mounted on card stock. Mr. Perot quickly explains each card and then briskly moves to the next.

What an opportunity! As I watched, I could not keep myself from wondering how much more effective his information would have been if it had been presented with the help of an Amiga. The charts could not only have been placed on a screen beside him, as a backdrop or foreground, or even a simple screen slide, but he could have animated certain points of his presentation so that the charts evolved through the years to demonstrate some of the dynamic changes he was describing.

Even the titles used during the transitions in his presentation could have been improved. While the distinguished white or

method of communicating directly to the voters through an almost complete television campaign will be a new weapon in the arsenal of politics.

The next campaigners may not have Perot's style, but they will have a new vision of how to reach the public. The charts will evolve into computer animations, the infomercials will contain professional transitions, music, film, video, and more, and 800 numbers answered by computerized phone-mail will become the standard. For better or worse it is here, and you can be sure that somewhere, someone on some political level will be using an Amiga to make it all happen.

Happy Holidays

Even though this is being written in October, the feeling is as genuine as a holiday morning. Season's Greetings from all of us at *AC*.

Sincerely,


Don Hicks
Managing Editor

P. S. Portal corrections

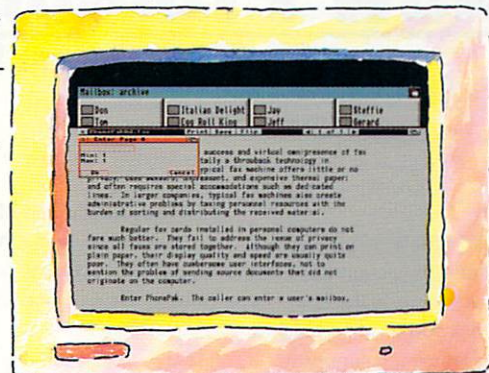
I have been informed that Portal does not charge extra for access to USENET. In my September editorial I stated otherwise. I apologize to Portal for any confusion this may have caused. To become a member of this national BBS dial 1-408-973-9111.

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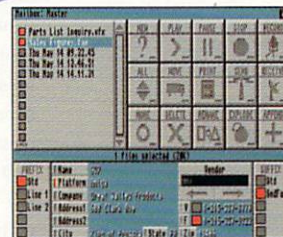
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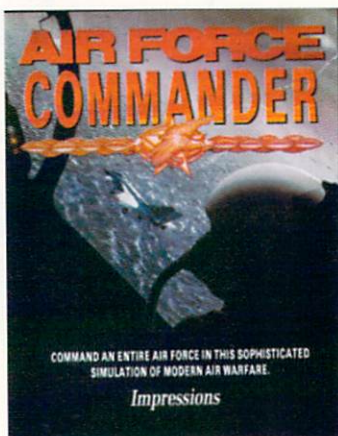
AD516

The AD516 (\$1495), bundled with Studio 16 version 2.0 editing software, is the first eight-track audio card available on any platform. It supports stereo with 16 bits of resolution, and a built in SMPTE time code reader for easy synchronization of digital audio to video tape. The AD516 records, edits, and plays back direct to hard disk allowing almost unlimited sample length. The supplied Studio 16 editing software supports cut, copy, and paste as well as more advanced functions like a SMPTE cue list. The AD516 and Studio 16 bundle provide a perfect low-cost audio for video post production system. Release 2.0 includes many new features, such as "drag & drop" technology for entering sounds into the cue list or transport. *SunRize Industries*, 2959 S. Winchester Blvd., Suite 204, Campbell, CA 95008, (408) 374-4962. Inquiry #201

Air Force Commander

You are the Air Force Commander in this strategy simulation of air warfare. You must deploy your squadrons at the right base, then give each squadron combat missions—setting up defensive patrols of your bases and cities, and missions to take out the enemy's offensive capability. As well as Falcons, Tornados and other planes, you also have attack helicopters and missiles at your disposal. Your objective—air supremacy. Success will require able military planning and efficient resource management. You will need to use several different maps to cover the huge area. Other aircraft featured in Air Force Commander (\$59.99) include

F117Stealth Fighter, Mig 21, B52, A10 Warthog, and AWAC. *Impressions Software, Inc.*, 7 Melrose Drive, Middletown, CT 06032, (203) 676-9002. Inquiry #202



Air Support

Future warfare has become too dangerous and threatens the survival of mankind. Conflicts between the world powers are now resolved by computer simulation. Survey the battle field, formulate your defenses, deploy your force of battle vehicles, and engage the enemy! Air Support (\$49.99) features 16 different vehicles for you to control during your campaign, plotting their deployment, weapons load, refueling and repair, and frac-scape imaging to create incredible realistic virtual 3-D battle theater landscapes. Air Support also features a software system for using 3-D glasses (included), adding vivid depth and realism. *PSYGNOSIS N.A.*, 29 St. Mary's Court, Brookline, MA 02146, (617) 731-8379. Inquiry #203

Aladdin 4D

Adspec Programming is announcing the latest upgrade to its Draw4D-Pro Product:

Aladdin 4D (\$499). Aladdin 4D is designed for use in both desktop video and desktop publishing applications with the emphasis on desktop video. The name was changed from "Draw4D-Pro Version 2.0" to "Aladdin 4D" to emphasize its abilities as a 3-D modeling/rendering program. Aladdin 4D maintains all of the capabilities of Draw4D-Pro while introducing the following features: Camera/Targets, Timeline, Changes to Textures, Waves, Gases, Display Support, Shadows, EPS Import, Shading Editor, and Paths. Requires a minimum of 2MB of RAM.

Adspec Programming, 467 Arch Street, P.O. Box 13, Salem, Ohio 44460, (216) 337-3325. Inquiry #204

Aladdin Lighting Control System

Phoenix MicroTechnologies Pty. Ltd. announces the Aladdin Lighting Control System, a complete lighting control and design console incorporated internally in an Amiga personal computer. The new Aladdin Lighting Control System provides a state of the art digital control system, configurable to the exacting standards of today's professional entertainment venues. Theater, concert, architectural, environmental, and club-type sites can now afford sophisticated control of motorized lights, color scrollers, conventional lighting rigs, and any device that is controlled by DMX 512 protocol communications. The system is available to suit A2000 and A3000 models of the Amiga personal computer. *Phoenix MicroTechnologies Pty Ltd*, 18 Hampton Road, Keswick, South Australia 5035, (011) 08-293-8752. Inquiry #205

Amiga Smart Port™ & SmartPortCal Program

The Amiga Smart Port™ (\$52.95) is an auto-switching game port interface system. Three connectors are provided for a mouse, digital joystick, and a fully compatible IBM PC dual

analog joystick game port. Simply press the button on the device to be used, and the automatic electronic switching does the rest. Two sets of x and y axes trim adjustments are provided to set the analog ports for maximum performance. The Amiga Smart Port comes with the SmartPortCal software, which allows the user to view all of the digital and analog system values, making the adjustment of the font analog channels a snap. *InterACTIVE Digital Devices, Inc.*, 2238 Nantuckett Court, Marietta, GA 30066, (404) 516-0248. Inquiry #206



Animattes: Wedding Series Volume Two

Animattes Wedding Series are self-running graphic routines for use in editing wedding videos. Volume Two (\$59.95) is a continuation of the first series, with some differences. Although they use the same novice-friendly interface, the animations are longer and more complex and fill four disks instead of three. All require at least 1MB of memory to run and will make use of more if it's available. Both volumes will run on any Amiga/genlock combination (including the Video Toaster) with workbench 1.3 or 2.0. *Electric Crayon Studio*, 3624 N69th Street, Milwaukee, WI 53216, (414) 444-9981. Inquiry #207

Beast III: Out Of The Shadow!

The warrior Messenger's reward for defeating the evil Zelek was



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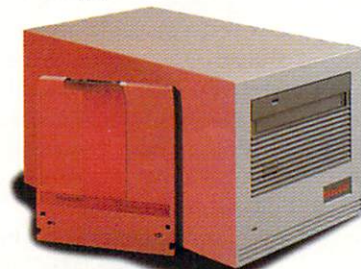
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- Built-in universal power supply, fan and air filtering system.



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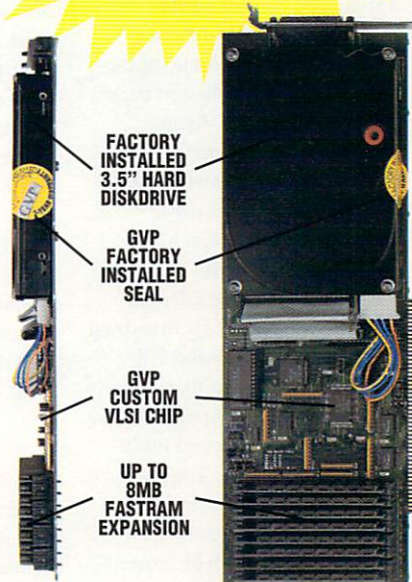
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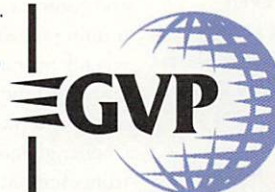
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the return of his human physique. Now that Zelek is no longer a threat, our hero may turn his vengeful attention to Maletoth—The Beast Lord. This will be his ultimate challenge. **Beast III** (\$59.99) features multiplexed hardware sprites, 2MB of graphics memory, full 8 way parallax scrolling, intricate puzzles, four massive levels of enthralling action and much more. *PSYGNOSIS N.A., 29 St. Mary's Court, Brookline, MA 02146, (617) 731-8379. Inquiry #208*

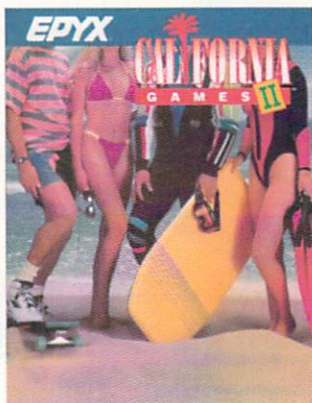
Broadcast Titler Font Pack 2

InnoVision Technology has announced the release of Broadcast Titler Font Pack 2 professional video fonts for the Amiga platform. The font pack adds 10 new styles: Avante Garde, Palatine, Dom Casual, Typewriter, Gille Sans, Handel Gothic, Compacta, Exotic, Clarendon and Lydian to the existing 10 type styles of Font Pack 1. All fonts are fully anti-aliased and include six broadcast titler sizes with a jumbo 115-scanline Amiga font that can be placed or resized in paint, desktop publishing and multimedia applications. The pack also contains special and international characters. Additional sizes can be created utilizing InnoVision's Font Enhancer program. The new Broadcast Titler Font Pack 2 can also be used in Super Hi-Res mode allowing users even greater flexibility and variety. *InnoVision Technology, 1933 Davis Street, San Leandro, CA 94577, (510) 638-8432. Inquiry #209*

California Games II

California Games II (\$39.95) offers five totally awesome

events: Skateboarding, Bodyboarding, Jet Surfing, Snowboarding, and Hang Gliding. Vacation in California and escape the boredom of everyday life when you play these radical events with stereo sound. *EPXY, P.O. Box 8020, Redwood City, CA 94063-0020, (415) 368-3200. Inquiry #210*



Campaign

Campaign (\$59.95) is the war games simulator designed with 20th century warfare in mind. Set during the WWII years of 1939-1945, Campaign features most of the hardware available during this period. You alone control the movements of over 100 different vehicles and 15 guns. Plan battles to the last detail using local factories, supply convoys and airforce support. *ReadySoft, Inc., 30 Wertheim Court, Suite 2, Richmond Hill, Ontario, Canada L4B 1B9, (416) 731-4175. Inquiry #211*

Carl Lewis Sports Challenge

Psygnosis brings the feel and action of world class track and field events into your home with the Carl Lewis Sports Challenge (\$49.99). Take charge of the training programs for your country's top ten athletes. Plan and control each athlete's training schedule. Monitor their weekly training performance and select the top five contenders for international competition. Challenge the world's athletes from elimination heats to the "medal rounds." The computer

establishes a competitive environment based on your squad's training performance in the javelin, 400-meter hurdles, long jump, high jump, and the 100-meter sprint. *PSYGNOSIS N.A., 29 St. Mary's Court, Brookline, MA 02146, (617) 731-8379. Inquiry #212*

Context Bible Concordance

The Context Bible Concordance (\$50) contains the entire text of the New International Version (plus an index of every occurrence of every word) in less than 3MB. It can output to a printer or file in four reference formats, with or without text and/or translators' notes. Verses can be output in formats for use with the Context Bible Hypertext. A search showing all 237 verses in the Bible containing both Jesus and Christ takes less than one second on an unaccelerated Amiga. You can cancel a print in progress and narrow or expand a search by searching the results. A demo disk and VHS video are free. *Neuralink, P.O. Box 16311, Lubbock, TX 79490, (800) 657-8822 or (806) 793-0423. Inquiry #213*

Context Bible Hypertext

Also new from Neuralink is the Context Bible Hypertext (\$100) in the King James Version. The Hypertext Module includes either the NIV or the KJV Hypertext with Thinker. It allows you to add unlimited notes and instant-jump cross-references after any verse, up to 30 levels of outline, and up to eight windows open in the same and/or different files. Links can also take you to hypertext sermons, programs, pictures, DOS commands, ARexx programs, interactive diagrams and commentaries. Any text in verses or notes can be in italics, bold, underline, and/or colors. Read using any Amiga bit-mapped font. Read and search external ASCII files, and use them as hypertext. Hard drive and 1MB RAM recommended. A

demo disk and VHS video are free. *Neuralink, P.O. Box 16311, Lubbock, TX 79490, (800) 657-8822 or (806) 793-0423. Inquiry #214*

CyberEdit

CyberEdit (\$395) brings new dimensions to Cuts-Only video editing with its unparalleled, highly interactive, mouse-based User Interface. Capable of Assemble, Insert, and Freeze Frame Edits, CyberEdit offers the speed and precision required by professionals but at the price that a consumer can afford. Editing accuracy is assured by using either its unique Control Track recalibration scheme, or by using SMPTE Time Code. CyberEdit works on Amiga 2000 and 3000 class machines, and supports a large number of popular VCRs and camcorders. It requires a Future Video(R) 2200DT or 3200 Edit Controller. *Cybercall, Inc., 20 Cleveland Avenue, Highland Park, NJ 08904, (908) 249-9883. Inquiry #215*

DP IBM Interface

The DP IBM (\$9.95) provides 100% compatibility with a wide variety of IBM Analog joysticks, including the CH-Flightstick, the Quikshot Warrior 1, the Wico Merlin and many others. To maximize software compatibility, the interface is equipped with a three position PC board game switch, which allows you to select from different resistance settings to customize joystick precision for each game. *DigiPrint, Inc., P.O. Box 13016, Richmond, VA 23225, (804) 560-1769. Inquiry #216*

DP IBM Bus Mouse Interface

With the DP Bus Mouse Interface (\$9.95), Amiga users can now enjoy the incredible durability and reliability of an IBM bus mouse. The interface provides 100% Amiga compatibility with the Logitech Mouseman, the Microsoft Bus Mouse, the Logitech Trackman and select others. These mice are

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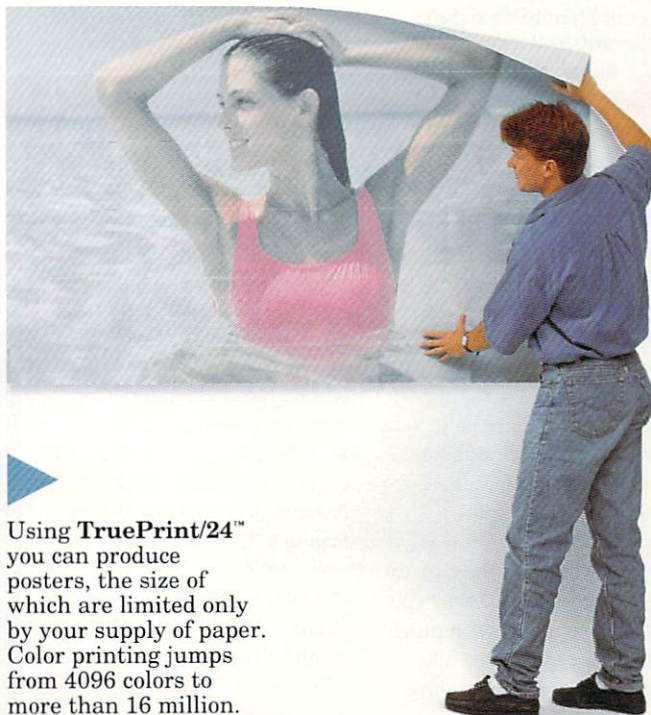
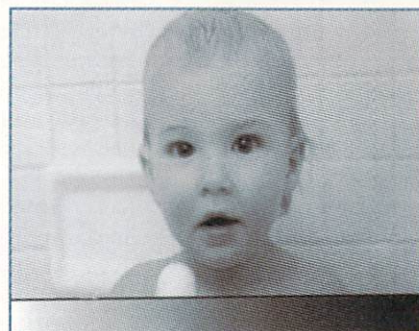
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not only ergonomically designed, but they also offer an unprecedented pinpoint accuracy of 400 dots per inch. The mice even include lifetime warranties, which ensure a future free of inconvenience. The DP IBM Bus Mouse Interface is compatible with all game and application software. *DigiPrint, Inc., P.O. Box 13016, Richmond, VA 23225, (804) 560-1769. Inquiry #217*

Dragon's Lair III: The Curse of Mordread

In *Dragon's Lair III* (\$59.95), you must save your family from the evil schemes of the Mordroc's twisted sister Mordread. In revenge for her brother's destruction, Mordread has captured and imprisoned your beloved family. Test your skills as you are thrust into a frantic quest through time to save Daphne and the children before they are trapped forever in the Vortex of Eternity. *ReadySoft Incorporated, 30 Wertheim Court, Suite 2, Richmond Hill, Ontario, Canada L4B 1B9, (416) 731-4175. Inquiry #218*

Fighter Duel Pro

FDPPro (\$59.95) retains all the breakthrough features of its predecessor and combines a full selection of aircraft and performance enhancements to deliver a professional package for the serious aviator. An exciting and exclusive new feature of FDPPro is the ability to connect a second computer through the main flight computer's parallel port that continually displays the view to the rear of the aircraft. Now you can duel an opponent computer through the serial port while watching your six on the slave. Rounding out the FDPPro package are a review mode,

unrestricted panorama, multiple bogeys, catapult launches, new land-based scenery, rudder-pedal support, and several minor but cool features. *Jaeger Software, Inc., 7800 White Cliff Terrace, Rockville, MD 20855, (301) 948-6862. Inquiry #219*

Fighter Duel Pro Flight Recorder

Flight Recorder (\$79.99) retains all the features of the Fighter Duel WWII flight simulator series, while adding the ability to create realistic and complex object motion paths for use with NewTek's Lightwave 3D software. FDPPro Flight Recorder also has the ability to simultaneously generate Fighter Duel Demo Reels that can be used to review the flights. Flight Recorder simultaneously records the positional and attitude information of three aircraft at 30 frames per second for a duration of 45 minutes on a 9MB system. Motion paths are then imported into Lightwave 3D to animate flying objects, the camera viewpoint, aircraft, spacecraft, and logos. *Jaeger Software, Inc., 7800 White Cliff Terrace, Rockville, MD 20855, (301) 948-6862. Inquiry #220*

HotLinks Editions version 1.1

HotLinks Editions 1.1 (\$150) includes: HotLinks, BME with Trace, and PageLiner. HotLinks 1.1 also has redesigned requesters which provide more edition information and are easier to use. The Publish and Information requesters use a popup menu to switch between blocks of information. HotLinks also follows the latest Amiga interface guidelines and is Workbench 3.0 compatible. *Soft-Logic, 11131F S. Towne Sq., St. Louis, MO 63123, (314) 894-8608. Inquiry #221*

I3325VM - Floptical® Disk Drive

Floptical Technology (\$399) is a removable 3.5" SCSI floppy drive system that combines patented optical and magnetic

recording technologies to achieve very high capacity (21MB) yet still reads and writes double-density (720KB) and high-density (144MB) formats. One 21MB Floptical density diskette gives you the same storage as 28 720KB diskettes or 14 1.44MB diskettes. *Insite Peripherals, 4433 Fortran Drive, San Jose, CA 95134, (408) 946-8080. Inquiry #222*

MediaPhile 2.0M Infrared Controller

This unit is a low-cost (\$50) means of providing infrared control from the game port. It has one output that can be configured for infrared, Sony S-port, or JVC swap-port control. A MediaPhile Infrared Adapter and stereo control cable are included. A software upgrade is required. Infrared code learning capability will be added in the future. *Interactive Microsystems, Inc., 9 Red Roof Lane, Salem, NH 03079, (603) 898-3606. Inquiry #223*

MorphPlus™

MorphPlus™ (\$295) is a state-of-the-art visual effects package that produces cinematic and broadcast-quality full motion morphs in record time using a proprietary image warping technology and a user interface. Features include the ability to subdivide an image into logical parts, assign separate acceleration and deceleration curves per group, depth arrange groups, and

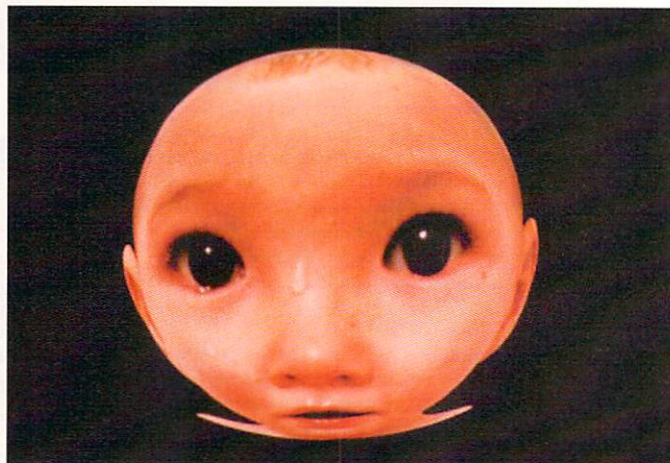
even the ability to set a transparency curve on a group by group basis. Other capabilities allow high quality DVE tumbles and fly-bys, mapping images onto rotating spheres, and others. *ASDG, Inc., 925 Stewart Street, Madison, WI 53713, (608) 273-6585. Inquiry #224*

ProWrite 3.3

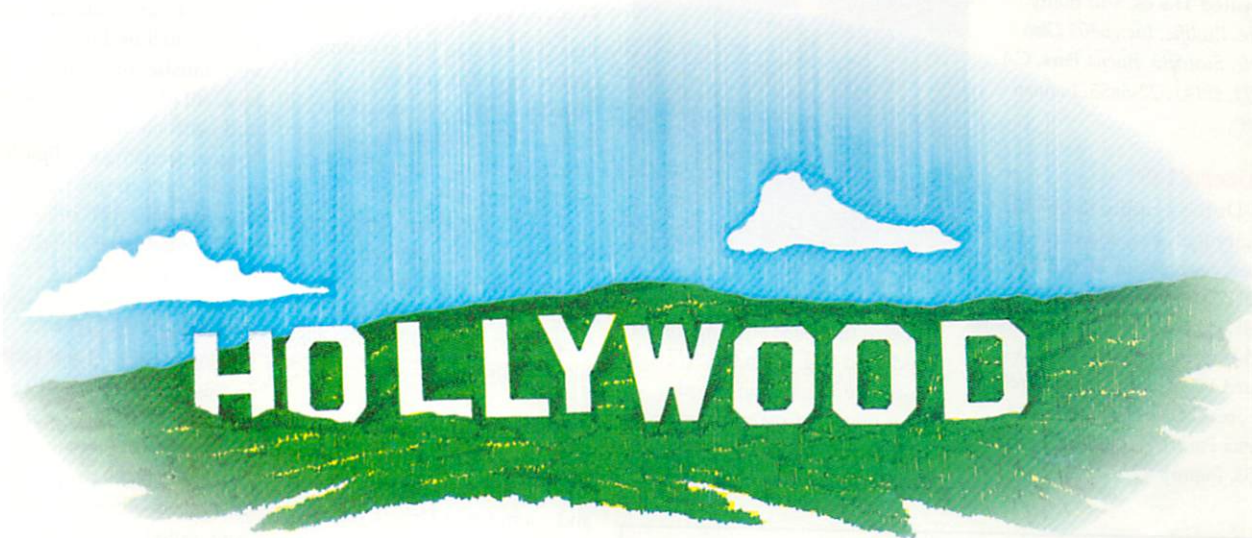
Version 3.3 of ProWrite is the start of a new generation of word processing software for the Amiga. Not only does ProWrite include enhancements to the user interface, but many new features have been added as well. New features include print preview, vertical rulers, the ability to use any font size regardless of what sizes are installed, support for the system clipboard, and more. Several enhancements have been made to ProWrite's handling of pictures, including automatic text-wrap around pictures, the ability to name pictures and find them by name, optional picture caching for improved performance, the ability to adjust picture position and size in precise increments, and much faster PostScript picture printing. In addition, ProWrite 3.3 supports HotLinks. *New Horizons Software Inc., P.O. Box 164260, Austin, TX 78746, (512) 328-1925. Inquiry #225*

Pro-BoardV3.0

On top of many improvements to the current Pro-Board V2.0B, Pro-Board V3.0 adds full autoplacement and full autorouting, direct support for



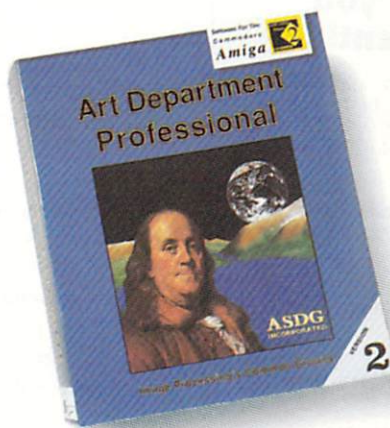
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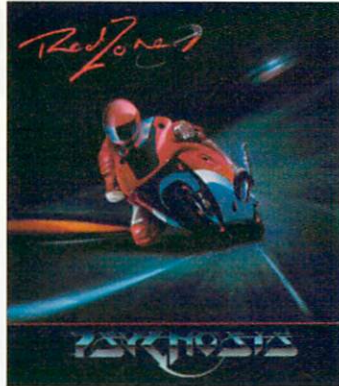
18 layer PCBs, Fine Line mode for increased routing density, improved Surface Mount Device support, New List optimization to aid both auto- and manual-routing, and is fully functional in Zoom modes. It is fully compatible with Pro-Board V2.0A and above. Other innovative features include On-Line Help, custom device creation, Statistical Reporting, Repeated Traces, and many more. *Prolific, Inc., 6905 Olso Circle, Suite B3, Buena Park, CA 90621, (714) 522-5655. Inquiry #226*

Pro-Drill V3.0

Pro-Drill is a utility to quickly specify Pad, Via, and custom hole sizes on your PCB. Pro-Drill V3.0 supports both Tru-Drill and Excellon file formats and is fully compatible with Pro-Board V2.0A and higher. *Prolific, Inc., 6905 Olso Circle, Suite B3, Buena Park, CA 90621, (714) 522-5655. Inquiry #227*

Red Zone

Fire up your fast, track-racing motor bike as you prepare to take on one of the worlds' famous raceways. Climb through the gears as you jostle for position in the starting straight-



away and work your motorcycle through the pack, striving for the checkered flag. With the checkered flag in hand, you savor your victory and prepare for the next course on the circuit. *Red Zone (\$49.99) features a*

specially optimized code to take advantage of accelerated computers, authentic recreations of world famous racing circuits, practice laps, action replays, realistic crowd and machine FX, with the roar of the fans and the screeching whine of the motor-bike. *PSYGNOSIS N.A., 29 St. Mary's Court, Brookline, MA 02146, (617) 731-8379. Inquiry #228*

Sony VISCA Deck Control

The MjediaPhile Video editing system from Interactive MicroSystems now supports Sony VISCA protocol decks and VBOX control of Sony DTL-L/LANKS port decks and camcorders. Control is from the serial port of Commodore-Amiga computers. *Interactive Microsystems, Inc., 9 Red Roof Lane, Salem, NH 03079, (603) 898-3606. Inquiry #229*

Toaster Oven

The Toaster Oven (\$399.95) gives you a 275-watt power supply and room for 11 Drives: (5) 5.25" drives and (6) 3.5" disk drives or other optional peripherals. Features of the Toaster Oven also include expansion cards which go from seven to four, and two cooling fans that provide you with the ultimate work station. *Ambitious Technologies, 2713 A Rockefeller Ln., Redondo Bch, CA 90278, (310) 379-1475. Inquiry #230*

TruePrint/24

TruePrint/24 enables you to print 256 shades of gray and more than 16 million colors on most Amiga-compatible printers. You can even print pictures with 32 shades of gray on text-only devices such as daisy wheel printers. Features include eleven different halftoning techniques, global color correction, easy to use "point and click" user interface, multitasking, ARexx compatibility, and much more. Requires an Amiga with Kickstart 1.3 or later and a minimum of 1MB of memory for portrait mode. *ASDG, 925*

Stewart Street, Madison, WI 53713, (608) 273-6585. Inquiry #231

•Books•

Earl Weaver Baseball: Hall of Fame League

This book (\$19.95) gives you the inside scoop on building your own teams by choosing the greatest players of all time. In addition to learning how to play the improved Version II of this realistic baseball simulation game, you'll find biographies and statistics on your favorite baseball players and managers, and instructions for setting up a league, selecting a ballpark, and much, much, more. *Osborne/McGraw-Hill, 2600 10th Street, Berkeley, CA 94710, (800) 229-0900. Inquiry #232*

The King's Quest Companion, Third Edition

In this third edition (\$19.95) Spear again tells the story of the King's Quest in a fictional narrative that is packed with answers to all six of these convoluted and intriguing games. You'll be able to conquer all King's Quests surprises as Spear reveals the world of Davenport and all its quirky characters. *Osborne/McGraw-Hill, 2600 10th Street, Berkeley, CA 94710, (800) 229-0900. Inquiry #233*

The Police Quest Casebook

Help Sonny Bonds win his ongoing fight against crime in the Poice Quest series of adventure computer games. In this book (\$19.95), Sisco provides all the information needed to win the games. You'll find maps, targeted solutions to specific problems, expert commentary from actual police officials, a glossary of police terminology, and much more. *Osborne/McGraw-Hill, 2600 10th Street, Berkeley, CA 94710, (800) 229-0900. Inquiry #234*

The Space Quest Companion

The Space Quest Companion

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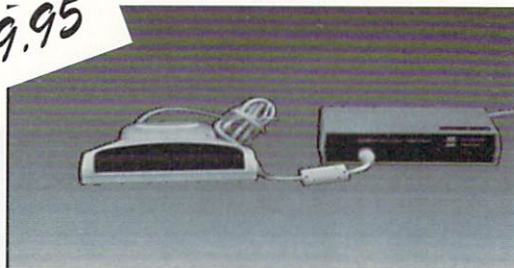
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(\$19.95) is a guide that all players will want if they intend to help Roger Wilco overcome his adversities and win the games—with maximum total points, of course. It's loaded with answers, maps, and humorous insights. *Osborne/McGraw-Hill, 2600 10th Street, Berkeley, CA 94710, (800) 229-0900. Inquiry #235*

•Other Neat Stuff •

Allied Studios

Allied Studios introduces Postscript® Type-1 fonts— sold in separate packages (\$30 each). New techniques permit higher quality, smaller file/memory size, and faster rendering. Type-1 is included for better results to 300 dpi postscript printers. Western Fonts features 16 antique time-worn and authentic western-style fonts. Condensed Fonts includes 19 fonts, including nine typestyles, that cover the field of light to bold, serif, sans serif, roman, and modern. Fancy Fonts features 14

decorative title fonts from the extra bolds, engraved, stencil, cartoon to fine penmanship fonts. *Allied Studios, 482 Hayes Street, San Francisco, CA 94102, (415) 863-1781. Inquiry #236*

Computer Reference Wall

Easily installed on any computer monitor, the Computer Reference Wall solves the nagging problem of where to put frequently used reference material. The Computer Reference Wall consists of two 8 1/2" x 11" hinged plexiglass panels and a unique "up or out" hinge which permits positioning either panel above or alongside the monitor. A junior version is available for applications where space is limited. *Viziflex Seels, Inc., 16 East Lafayette Street, Hackensack, NJ 07601-6895, (201) 487-8080. Inquiry #237*

DKB 2632

DKB Software announces new pricing for the DKB 2632 32-bit memory expansion board for the

Amiga A2500/030 with the A2630 accelerator card. The new retail price of the DKB 2632 with 4MB installed is \$549.95 from \$699.95. The DKB 2632 with 8MB is \$799.95 and the 16MB board is now listed at \$1,199.95. The new DKB 2632 pricing comes from reduced manufacturing costs and the ever lowering of memory prices on the SIMM modules. *DKB Software, 50240 W. Pontiac TR., Wixom, MI 48393, (313) 960-8750. Inquiry #238*

FDPro Parallel Adapter

Fighter Duel Pro and Fighter Duel Flight Recorder for the Amiga have the capability to connect a second computer through the main flight computer's parallel port and continually display the view to the rear of the aircraft. The hardware required are two Centronics-type parallel printer cables and the FDPro Parallel Adapter (\$20). *Jaeger Software, Inc., 7800 White Cliff Terrace, Rockville, MD 20855, (301) 948-6862. Inquiry #239*

1000-Adaptor

If you have an A1000 and wish to expand it, there are 1000 reasons to buy the 1000-Adaptor. It's an adaptor for the Amiga 1000 that connects to its parallels/serial ports making them Amiga 500/2000/3000 compatible. Any Amiga hardware such as Digitizers, Modems, etc., can then be used with the Amiga 1000. *Harmony Sort, 69 Jabotinsky Street, Givatayim, Israel 53319, (011) 972-3-315-967. Inquiry #240*

"Retroactive Upgrade" of all ADPro Family Products

Timed to coincide with Commodore's announcement of the Amiga 4000, ASDG announces that all of its ADPro family of image processing products already support the new Advanced Graphics Architecture (AGA) including the new video modes and color resolution. These capabilities automatically appear when running on AGA equipped

machines. *ASDG, Inc., 925 Stewart Street, Madison, WI 53713, (608) 273-6585. Inquiry #241*

Sir-tech announces agreement with Directsoft Australia

In keeping with Sir-tech Software's aggressive international marketing efforts, Norman Sirotek, president of Sir-tech Software, Inc., announced that Sir-tech has signed a distribution agreement with Directsoft Australia of Wahroonga, Australia. The agreement calls for exclusive distribution of Sir-tech Software's fantasy role-playing and strategy game lines, most notably Wizardry—Bane of the Cosmic Forge, available now for MS-DOS and Amiga computers, and the upcoming Wizardry—Crusaders of the Dark Savant. *Sir-tech Software, Inc., Ogdensburg business Center, Suite 2E, Ogdensburg, NY 13669-0245, (315) 393-6451. Inquiry #242*

Software Update 3.0 for ATonce Owners

All registered Vortex users have recently received their software update 3.0 for ATonce, ATonce-classic and ATonce-plus, the vortex 286 AT emulators for Amiga computers. Every user who has not yet been informed or updated will get the software 3.0 free of charge from his local dealer, at Amiga fairs, or directly from Vortex by sending a formatted 3.5" floppy disk, a self-addressed envelope, and an International Reply Coupon.

Every user who wants to update his previous emulator to Vortex ATonce-Plus or Vortex Golden Gate should ask his dealer about a special offer. *Vortex Computersysteme, Dist. by Micro-Pace Distributors, 604 North Country Fair Drive, Champaign, IL 61821, (217) 356-1884. Inquiry #243*

•AC•

New Products and Other Neat Stuff is compiled by Elizabeth Harris

REVIEWS

Voyager 1.1

by Jeff James

A new astronomy program from Carina Software, *Voyager 1.1* (\$124.95) brings an exciting array of star-gazing features to the Amiga desktop. A port from the Macintosh, *Voyager* has quite a bit to offer—and stacks up rather well against the old Amiga astronomy standby, *Distant Suns*. Much like *Distant Suns*, *Voyager* operates like a personal planetarium: with it, you can view deep sky objects from the Messier, NGC (New General Catalogue), and Yale Bright Star stellar catalogues. Closer to home, *Voyager* lets you examine the planets, asteroids, comets, and moons of our solar system. Finally, celestial phenomena such as solar and lunar eclipses, the orbits of planets, comets, asteroids, and even NASA exploratory missions can be simulated and studied.

Installation

Voyager ships in an attractive slip-cover box containing three program disks and a spiral-bound manual. The three program disks consist of the main *Voyager* program; a data extension disk which contains additional star data and images; and an Image Sampler disk containing IFF images of planets, moons, and other empyrean objects. Getting those disks installed onto a hard drive is straightforward; after creating a *Voyager* directory on your hard disk, a simple drag-and-drop operation performed on each disk prepares the program for use. Once installed, *Voyager* occupies slightly over 2MB of hard drive space. The program operates on any Amiga with AmigaDOS 1.3 or higher, two floppy drives and at least 1MB of RAM. *Voyager* does run noticeably faster on an accelerated machine, although performance was acceptable on a bare-bones Amiga 500. The manual weighs in at over 140 pages, filled with illustrative screenshots and tutorials.

Making You See Stars

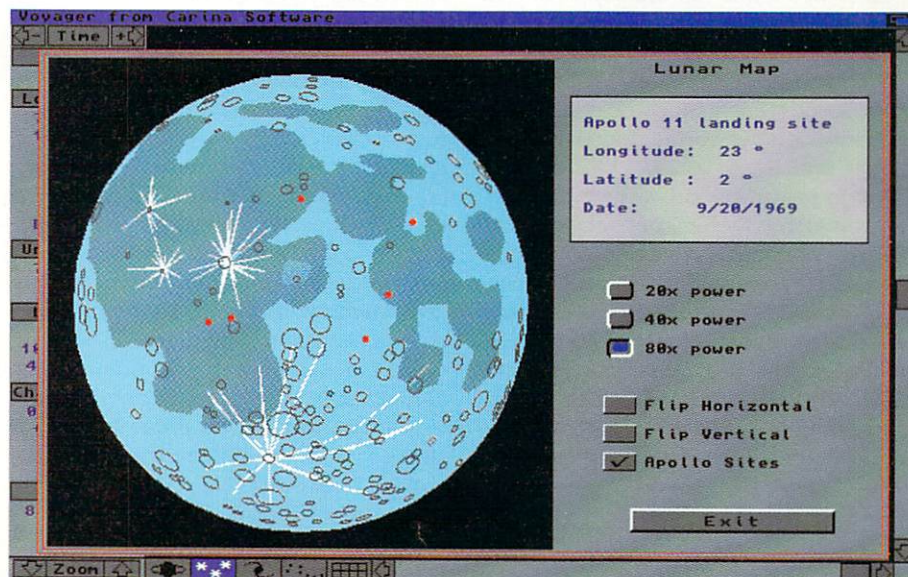
Although the printed tutorials do come in handy, *Voyager*'s polished interface obviates a lengthy study session with the manual. Broken down into three primary

segments, the interface puts the Amiga mouse to good use. These three segments consist of a narrow control panel at the extreme left of the screen which allows the current time, time rate, viewing location, and field of view to be customized; next, a set of buttons and scroll bars at the bottom and right edges of the screen allow the user to change the target viewpoint and toggle display features, such as the appearance of planets, constellations, and mythological sky figures, on and off; last, the large sky-chart display occupying the center of the screen is your window to the cosmos, where all the stars, planets, asteroids, and other celestial objects are displayed.

If you want to change the view, clicking and dragging the sliders at the bottom and right edges of the screen allow you to alter the declination—the angular distance of an object from the celestial equator, analogous to latitude; and the right ascension—an object's angular position along the celestial equator, analogous to longitude, allowing you to scroll to different areas of the sky. Using the control panel, you can decrease your field of view, zooming in for a closer look at your favorite star. If you're curious to see how the night sky looked from your location 3000 years ago, you can alter the current time and see the results. A single left-click on a star or planet brings up a data window displaying information on that object, while a double-click centers the display on that object. If there are any associated picture files for the object selected, a

small picture frame appears in the data window. Clicking on this displays the full-screen IFF images of the object in question, including overscan and HAM images. The included IFF pictures are of good quality, and even more images are available direct from Carina. Three two-disk image sets are available for \$18 each.

Voyager's database contains thousands of stellar objects, including galaxies, variable and binary stars, comets, asteroids, planets, moons, and earth-launched spacecraft. This database consists of about 30,000 stellar objects. For even more objects, Carina sells two additional data extension disks at about \$30 each. The ability to expand both the stellar database and the number of IFF images is a boon, allowing users to tailor *Voyager* to their own level of star-gazing expertise. Unfortunately, *Voyager* does not allow the addition of user-edited objects, such as newly discovered stars and other stellar objects. *Voyager* does allow the addition of auxiliary objects with a defined orbit, such as comets, asteroids, and spacecraft, by way of the define orbit feature found in the pull-down options menu. You can view the stars from almost any location in the solar system, including the planets, spacecraft, and asteroids. You can even select an empty patch of space for your viewpoint at up to 100 astronomical units (AU), the average distance of the Earth to the sun, from our own star, the sun.



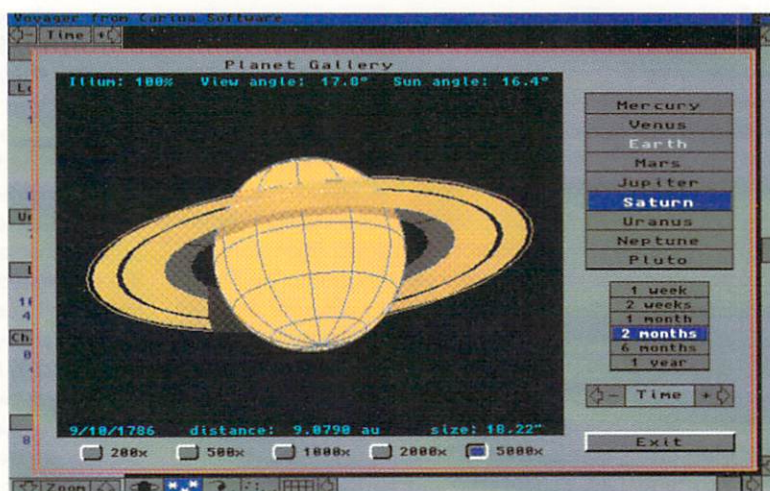
Exceptional Extras

While Voyager shares many features with other astronomy programs, such as changing your field of view, identifying stars, and watching the planets orbit the sun, Voyager has a surprisingly useful set of unique features. Selecting your earthly viewpoint is a snap, thanks to Voyager's point-and-click "set viewpoint" feature. Instead of being forced to enter your current latitude and longitude, as *Distant Suns* requires users to do, you simply select your location by clicking on a three-dimensional globe of the Earth. While this feature won't be much help if you have weak geography skills, it is vastly superior to the system used in many other astronomy programs. My favorite feature is undoubtedly the Galilean Moon's menu option, found in the pull-down options menu. This feature displays an animation of the planet Jupiter and four of that planet's largest moons. Discovered by Galileo in the 17th century, these moons—Callisto, Europa, Ganymede, and Io—make up part of Jupiter's impressive system of moons, almost a tiny solar system in its own right. Voyager accurately plots the orbits of these four moons about Jupiter and then animates the results.

Several other exciting program options are also listed in the option menu, including a day-night map of the Earth, a solar-neighborhood selection which shows a three-dimensional representation of our solar system and several nearby stars, and a planetary gallery which displays a shaded wire-frame representation of how each of the nine planets—and our own moon—would appear from your current vantage point. Especially useful is the moon map option, which allows point-and-click exploration of the moon's surface, with major craters and Apollo landing sites marked. Other features abound, including a conjunction search feature, perfect for finding the next "harmonic convergence," an ability to print sky charts, save program screens as IFF picture files, and even draw custom horizons to match your own backyard, among dozens of other options. Voyager can even simulate how the Earth would look from the moon with a fair degree of accuracy.

Animated Space Exploration

Carina promotes Voyager as a "dynamics simulator" which can simulate the movement of celestial objects using computer animation. Simulating motion in Voyager is simple. After customizing your viewpoint settings and other preferences, you simply click on the "time step" gadget at the top of the control panel to get things moving. Time can advance in one of 40 increments—ranging from one minute to 100 years—either forwards or backwards. Voyager's ability to quickly animate objects is especially apparent when looking back at the sun from some point in the solar system, with the planets whirling about the sun in their orbits. Throw in a spacecraft, an asteroid, and a comet, and Voyager truly becomes a desktop planetarium.



Voyager's Vices

As feature-packed as Voyager is, a few rough spots could be ironed out. The ability to print star charts is a boon. The printouts were decent; however, cleaner, crisper printer output would be welcome. More detail in the planet gallery feature would be nice, and the ability to enter user objects—such as newly discovered stars, etc.—would be a boon for amateur astronomers. Finally, although Voyager features a smooth, workable interface, it still bears a strong resemblance to the Macintosh's. While conceding the fact that most program operations are disarmingly simple to use, the interface, particularly with regard to screen windows and file requesters, needs to be "Amigaized" to a greater degree. Windows lack close gadgets, file requesters exhibit strange characteristics, and other minor interface foibles can be found. Macintosh owners have always shouted strongly for programs that support the Mac's interface

well, and I see no reason why Amiga owners should have to go without, especially now that AmigaDOS 2.0 offers standardized requesters.

Two Star-Crossed Competitors

It would be impossible to review Voyager without a comparison to the other leading Amiga astronomy program, *Distant Suns 4.7*. Published by Virtual Reality Laboratories, *Distant Suns* has earned a large following of loyal Amiga users. Is Voyager better than *Distant Suns*?

Voyager offers features that *Distant Suns* lacks, such as the animation of Jupiter's Galilean Moons, the ability to display HAM images, a detailed moon map, and the planetary gallery feature, among others. Conversely, *Distant Suns* has ARexx support, allows user-entered objects like stars, sup-

ports the creation of IFF-ANIMs, and has the ability to print lengthy reports on planetary ephemeris data. Perhaps a better litmus test involves the hardware on which you plan to run the software. Voyager runs much better on modest, unaccelerated Amiga setups than *Distant Suns* does. A3000 users and owners of other accelerated machines should find both programs a pleasure to use, although Voyager is a bit faster at redrawing star-filled sky views. Ultimately, choosing one of these programs over the other boils

down to which program offers the features you'd like to use yourself. Prospective purchasers would be wise to examine both before making a decision.

Regardless of which program you choose, the arrival of a competitor into the formerly one-horse Amiga astronomy software race is good news for Amiga owners. As Carina Software and Virtual Reality Labs jostle for the market share by trying to outdo one another, the Amiga consumer will undoubtedly benefit.

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**Voyager 1.1
Requirements:
AmigaDOS 1.3 or higher
1MB RAM**

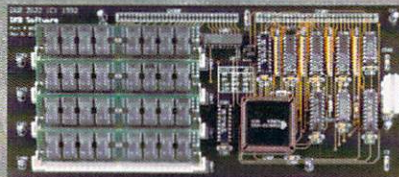
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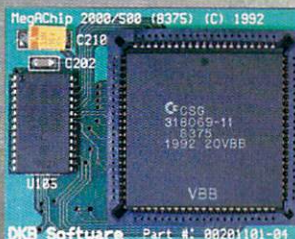
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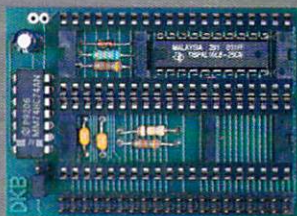
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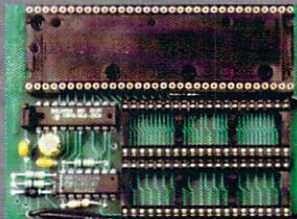
The SecureKey is a hardware security device that installs in any A2000 or A3000 or Video Toaster system. The SecureKey allows you to have one access code for your Amiga. The SecureKey will not allow access to your Amiga without the right security code, period. You can't boot off of a floppy or bypass it in any manner. If you need to keep your system safe from unauthorized use - Want to make sure that no one can delete files from your harddrive or steal your work then you need the SecureKey. This means that if your system has files such as animations, documents, presentations, C code, or any type of confidential information, you can be assured that the files on your harddrive are safe. Keep your Amiga safe from those that may otherwise unknowingly destroy your information. Requires Kickstart V1.3 or above. The SecureKey is fully compatible with Kickstart V2.0.



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DKB Software

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Fern Gully & Rock-A-Doodle Computerized Coloring Books

by Kim B. Schaffer

What do you call a professionally packaged program for kids with no music, no animation, and limited coloring capabilities? Capstone calls it an electronic coloring book.

The programs come with a set of eight background drawings and eight separate figures, most with two or three different poses, which can be placed in front of the background pictures. The backgrounds and figures are drawn as outlines which can be

panel until you press the F1 key again. Most controls, with the exception of color selection, can be done at the keyboard, but this is very difficult for the age group for whom these are intended. Unless the child worships these movies, chances are they will only placate a very young child. One of the biggest problems seems to be holding down the mouse button at the top of the screen and moving the mouse down. This drags the screen down and adds to the confusion, if not frustration, of the child and the supervising adult.

Even the color selection can easily become confusing. There are 16 colors in the palette, any one of which can be changed by using the mix function. The color is changed by selecting any of its three color slides. Unfortunately, not only is the color of the picture selected changed, but the old color is also replaced with the new for all of the other pictures.

Each picture is saved to the disk and is reloaded the next time the background is chosen. Each background can be erased easily so that it can be re-used.

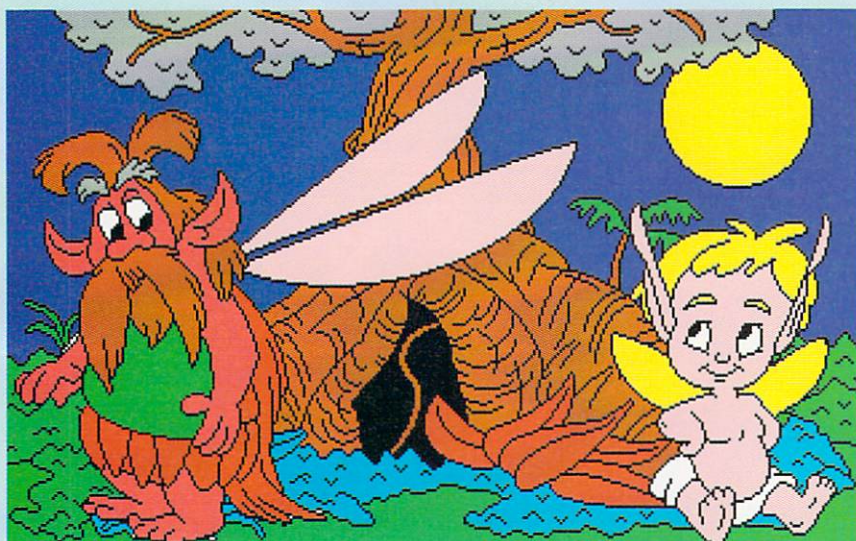
Once the child has found out how to print, which seems to be the easiest thing to learn, expect lots of printing, with no way to stop it short of turning off the printer, and dealing with the error messages. Getting the first printout is not easy either. I suggest setting the printer graphics so that the printout margins are set to absolute with the width set to 9.5" and the height set to 7.5". The aspect should be in vertical mode with the center option on. If you do not have a color printer, get ready for the usual complaints about the dark shading not indicating what colors were used.

The package comes with an abbreviated manual and includes a parent/teacher learning guide. The manual includes the bare essentials. The guide is well written and has some very good ideas, for a teacher or a parent, concerning arts and crafts skills for the very young. The guide has very little to do with the coloring book program, but does support themes from the movies.

The colorful packaging, the movie themes, and the low price should make these packages easily found at most Amiga software dealers. However, I doubt if they will do much to foster any interest in any child for the Amiga, or computing in general.

•AC•

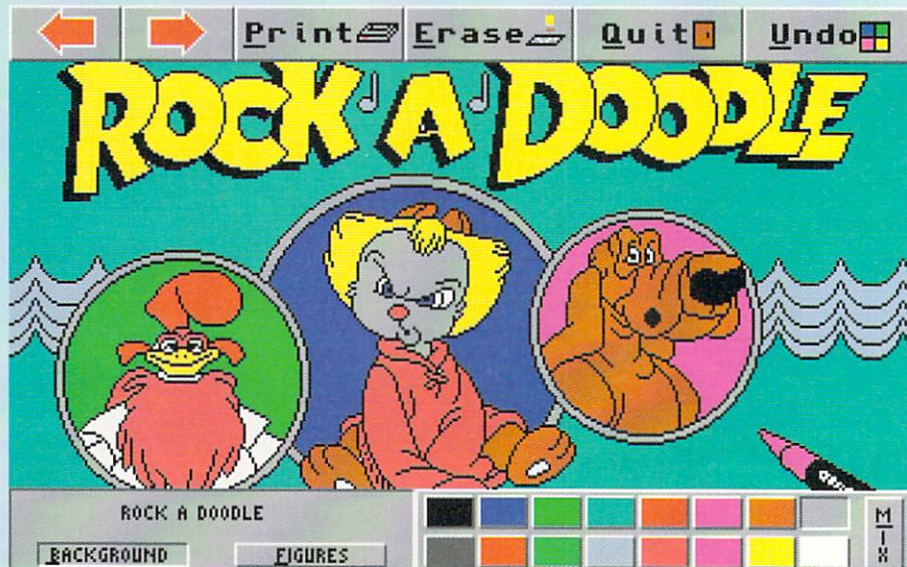
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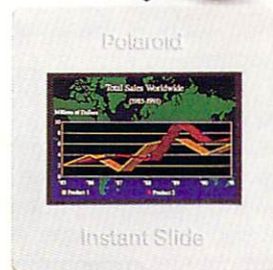
filled or colored by a child. The child can then assemble the "pictures," fill in the colors, and then print them out. The figures and backgrounds are easily recognized as coming from the movies.

Most of the figures are large, leaving little room for different placement, and cannot be cropped or overhung off the edge of the background. Placing more than one or two on a page will overwhelm the picture. The quality of the drawings is good; however, they do suffer a severe case of the jaggies.

The idea of filling in the colors is not always so simple. Some of the fill areas are small and the pointer is large and clumsy. The whole screen is not shown unless the F1 key is selected, taking away the control



A vintage IBM PC system is shown, consisting of a monitor, a system unit, and a keyboard. The monitor displays a line graph with two data series, one in red and one in blue, plotted against a background of green trees. The system unit is a beige desktop model with a 3.5-inch floppy disk drive. The keyboard is a standard beige IBM model.



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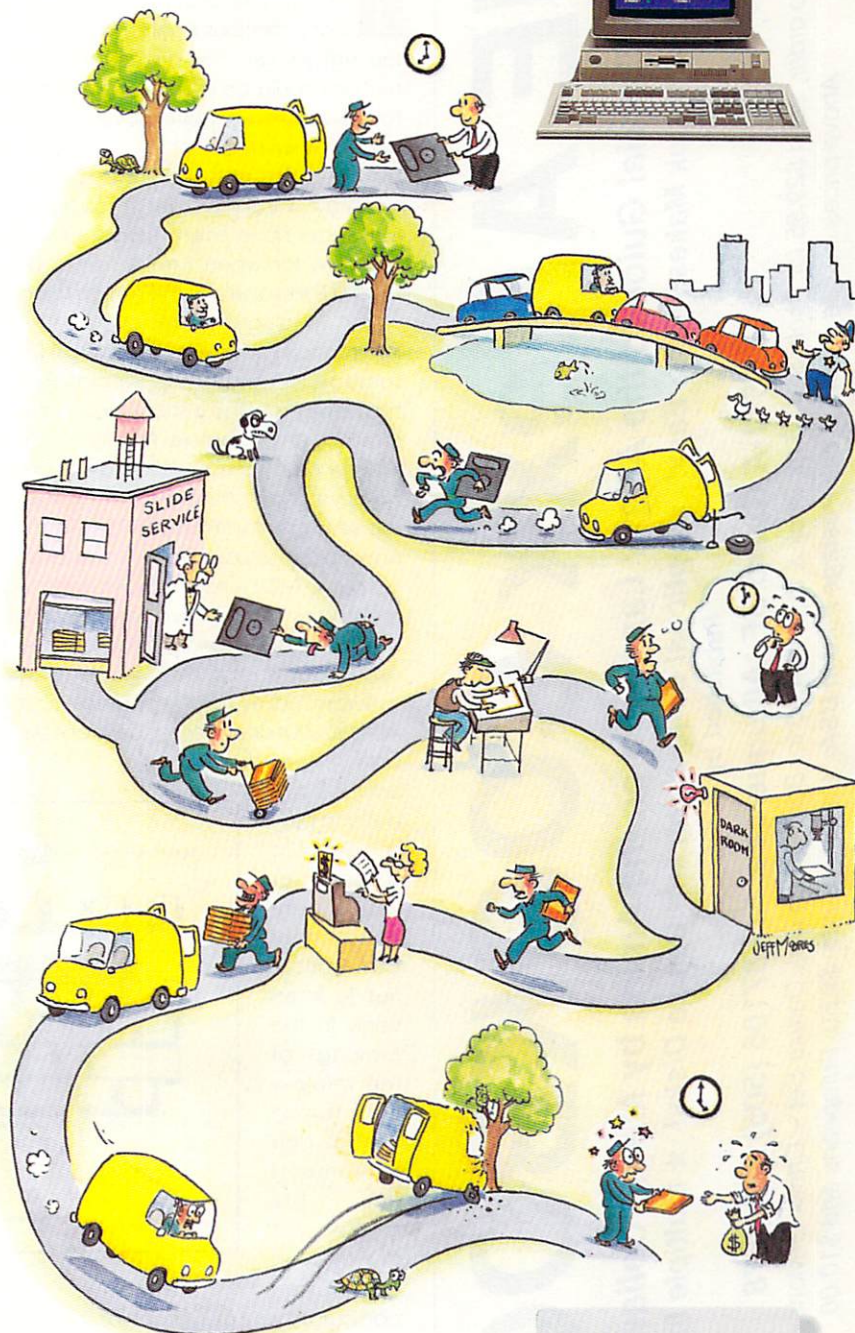
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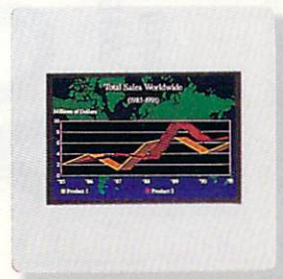
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PIXOUND 2.1

by R. Shamms Mortier

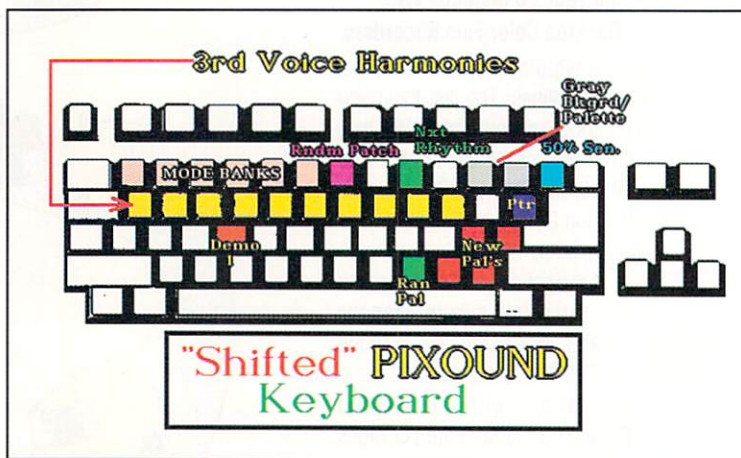
I suffer under the velvet whip of two muses, music and visual art. Because of that conscious bondage, I purchased the Amiga, with the hopes that both addictions could be at least addressed if not totally satisfied. I have never been sorry, except when I realize that I get about half of the sleep that non-Amigians do. There has been a missing ingredient though, and it's one that I have even fantasized writing a program for when I retired from present tasks. It is the ability of the Amiga to actually "play" visual screens, interpreting the visual information into music by filtering it through some exclusive algorithm. But alas, someone has beat me to the punch! That "someone" refers to the creative folks that operate Hologramophone, so that at a cost of about \$100, you can now "hear" what your eyes are seeing with **PIXOUND**. The Amiga can now "play" visual screens, and direct the output to MIDI synths. For decades, experimental composers have been "writing" music by using color and graphic symbols, and asking musicians to interpret the results. This software makes you the composer, and the Amiga/MIDI connection the orchestra. You can either ask the computer to play a graphic screen, or you can involve your own sensibilities to intervene in the making of the music—by taking control of the movements of the mouse.

If you desire, you can create your own graphics screens in 32-color lo-res, translate them into a format that **PIXOUND** can "read" (with an on-board module), and then sit back and watch/listen to the results. There is a long list of graphics screens already configured and stored on the disk for instant gratification. The visual designs are based upon both the hue and intensity of color, because it is these parameters that **PIXOUND** uses to translate

visual information into sound. The principle is simple, but the results are truly amazing. To add to your musical joy, the whole keyboard is mapped out with different ways that you can interact (in real time) with the music. My absolute favorite is that the function keys are dedicated to certain scalar patterns (augmented scales, major/minor scales, modes, and other patterns) that automatically remap the visual so that it responds to color and outputs dedicated scale patterns. The interaction is limitless, and will definitely promote an inter-disciplinary attitude in the arts. Musicians will be investigating color and visual form, and visual artists will be experimenting with the amplitude and waveform possibilities of their paintings. When you hear the partially controlled, partially random results through a good MIDI device, you will surrender the few hours of sleep that the Amiga has left you. And if, like me, you are both a visual and musical addict, **PIXOUND** will have you walking in the Seventh Heaven.

How it do what magic it do

To begin, **PIXOUND** advertises itself as a "MIDI musical art interpreter." I use it in conjunction with the *Midia Musicbox*, and also with my Casio-1000 synthesizer. You can have it playback Amiga sounds alone, however, if you don't have a MIDI device. But since there's no way to load your own



Amiga samples, you'll have to settle for the rather bland samples on board.

There's a whole host of new Amiga videographic ware that addresses creativity in a fashion similar to **PIXOUND**. All of it except **PIXOUND**, however, work with graphics, not sound. The basic process is to use the Amiga keyboard as a macro converter, so that by depressing a key or a combination of keys, you can cause a de-

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defined action to take place. With Elan's *Performer*, this defined action is the appearance of a still or an animation that you have loaded previously. With PIXOUND, it is a manipulation of the Amiga soundchip or a MIDI command sent to a synth or soundbox. PIXOUND 1.0 was a rather enjoyable but simplistic affair. It was easy to "play" the picture before you because the commands were limited. After a cursory reading of the manual, you were anxiety free and on your own. PIXOUND 2.1 has a myriad of additional options, and the "cost" is a longer study of the manual in order to become even quasi-familiar with expected results. PIXOUND 1.0 was a nice toy. PIXOUND 2.1 has professional and performance applications.

The Beginning

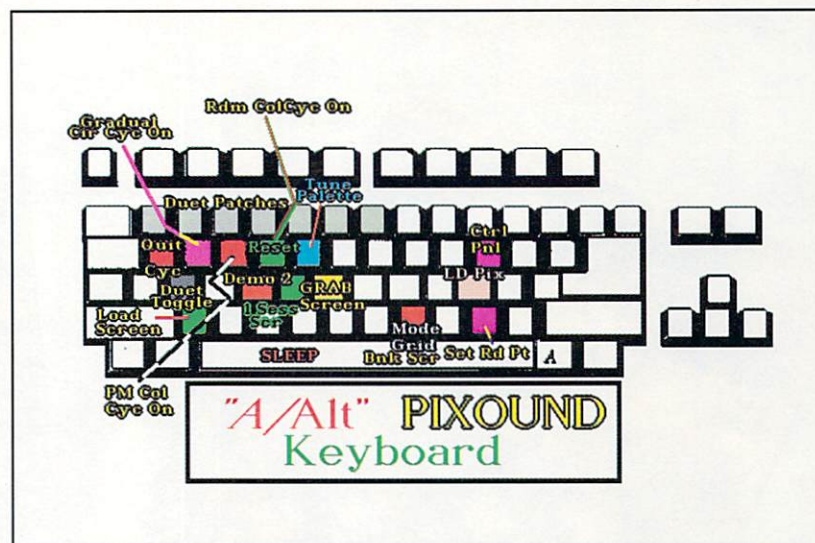
The first thing you'll want to do when the program is on screen is to toggle MIDI to "on" if you have a MIDI device that will actually produce the sound. You may be more comfortable accessing some of the commands from the TitleBar menus at the start, and substituting the keyboard equivalents as you learn and remember them. There are several ways a picture may be "played," either interactively or by computer randomness. At the start, you will no doubt be focusing upon the pictures that are included—some are generation programs that create moving images. In no time at all though—especially if you study the included graphics and their sound capacities—you'll be experimenting with your own visuals as well. Whichever way you choose to have the screen sound out the data, you can also record the musical pattern and replay it later, convenient for recording direct to a tape player. The entire pattern can also be saved as a sequence and ported to other software—Dr. T's is mentioned as an example, because you could also print it out with Dr. T's "Copyist." Screens can also be saved to disk, and loaded later.

Options Galore

When it comes to applications software, many of us approach it as we do gaming programs, that is, if they do only a couple of things, no matter how well, we soon cast them in a dark corner and move on to something else. Given that observation, PIXOUND will always be in the light, as the options are almost infinite. I'm not going to attempt to delineate every one here, for doing so would take too much space. But I will touch upon the generalities so that you can appreciate the complexity and variability of this creation.

MIDI users can address output channels and patch bays, so the various harmonies can travel on a chosen path to a specific sound. No reason you couldn't also address other MIDI devices like drum machines, lights, and anything else that can be driven by MIDI signals. Not only do colors relate to sounds, but various saturations of color also manipulate the audible signal. Pastels, for instance, actually sound "lighter," while areas of muddy color sound dark and foreboding. Think of what you can record to

tain toggle, and Cycle toggle. This is not only good, it's vital. Without it, and because of the way that the resident options can complicate matters rather quickly, there's no way you could remember what you did to get where you are. Basically, the "F" keys at the top of your keyboard determine specific modes and scales, from Major/Minor to more esoteric choices ("Gypsy" and "Whole-Tone" scales). I miss having a "Blues" scale option, but maybe that's planned for another revision. The Delete key can be toggled



videotape in this fashion. Another way to vary the playback is to color cycle the picture, which will cause the sound to speed up as the colors rush by the blitter that senses them. Colors in the palette can actually be "tuned," allowing you to assign various musical attributes to each of them! Harmonies and rhythms can also be assigned and altered.

There are two functions in PIXOUND 2.1 that are really mind boggling in terms of allowing you to integrate your own artwork. The first, GRAB SCREEN, imports the art from your paint program as it runs in the background and dumps it onto the PIXOUND screen. I used it with Electronic Arts *DPaintIV* and it worked fine. The second option is also useful, albeit a bit strange. OVERLAY SCREEN imports your own art screen and blends it with the PIXOUND screen already visible, thereby abstracting in surprising ways both the visual and the attendant sound. The self explanatory LOAD PIX loads a previously saved IFF graphic from disk.

PIXOUND always lets you know where you're at by giving you echoed data on the TitleBar—Pitch, Scale, Octave, Patches, Sus-

to begin and end the recording of a sequence. From there, it can be saved to disk.

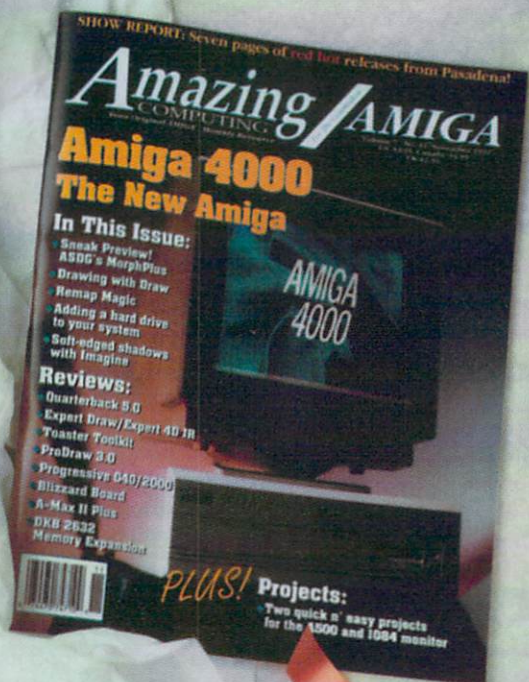
Color Transformations

Since PIXOUND "plays" your visuals from an assignment of specific note qualities to on-screen colors, it makes sense that there should be global ways to alter the colors, thereby giving you even more options in the audio playback. PIXOUND allows you to change from one system palette to another—having eight varieties, or you can create your own palette. Colors can be cycled in any of five ways, and each produces a different harmonic result. The "eight" key initiates multi-cycling. Colors can also be reversed and inverted, and the background color can be operated on separately.

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VistaPro 2.0

by Jeff James

When the Amiga was first released, creating believable images of real landscapes usually required one thing—a skilled artist. Although animation and rendering programs have been available for years, nothing was available to help ten-thumbed computer artists like myself create attractive, realistic landscapes. Thankfully, a number of landscape generators eventually arrived on the scene, using the powerful simplicity of fractal theory to generate amazingly realistic landscapes. A flurry of shareware and commercial landscape generators soon followed, giving Amiga artists and animators plenty of options to choose from. Today, two of the more popular commercial programs include Natural Graphic's *Scenery Animator* (AC V.7.3) and Virtual Reality Laboratory's *VistaPro 2.0*, reviewed here.

In principle, VistaPro and other landscape generators operate much like conventional 3-D rendering programs such as *Imagine* and *Sculpt-4D*. Similarly, VistaPro allows you to set the positions of a camera and a target in an area of space simulated in the computer's memory. You then render the scene and view the results. Whereas 3-D rendering packages are mainly concerned with the manipulation and animation of 3-D objects, VistaPro concentrates on generating landscapes, not objects. Using real-world data obtained from a variety of sources—including the U.S. Geological Survey (USGS)—you can use VistaPro to create simulated views of the Grand Canyon, Crater Lake, Mt. Saint Helens, even volcanoes on Mars. Less adventuresome artists can even render detailed panoramas of their own backyards.

Installation

VistaPro ships on two diskettes: a "Program" disk containing the executable, and a "Landscapes" disk holding more than a dozen sample landscapes. Two versions of VistaPro are supplied: "VistaPro" and "VistaPro.881." The first is for use on any Amiga model with at least 3MB of RAM, while the other is reserved for use on machines with a 68881/68882 math co-processor or a 68040 processor. If you have a math co-processor, using the "VistaPro.881" option results in a substantial speed increase during rendering sessions. A hard-drive installation script is available to copy the contents of those diskettes to a hard disk, where the program occupies a little over 2MB of space. VistaPro will operate on any Amiga with at

least 3MB of RAM, although a hard drive, accelerator, and extra RAM are recommended. The VistaPro manual is a spiral-bound compendium of important VistaPro information, filled with helpful tutorials and illustrative screenshots.

Before you can begin generating a landscape, you must first load a set of Digital Elevation Model data—DEM for short—into the topographic map. Used by the USGS, DEM data is available for most of the United States and other parts of the world, including such extraterrestrial locations as Mars, Venus, and the Moon. Several sample landscapes are included with VistaPro, ranging from VRLI's hometown (San Luis Obispo, CA) to mighty Olympus Mons (Mars), thought to be the largest inactive volcano in the solar system. If you don't have any DEM data available, VistaPro offers two other ways to generate landscapes. The first involves selecting a random seed number—ranging from -1,231,541 to +1,231,541—from which your landscape is generated. The second method involves importing an IFF picture and then converting it to VistaPro DEM format. Once the landscape data is loaded, you can begin to manipulate and alter your landscape prior to rendering. Using options on the control panel, you can add trees, lakes, rivers,



even clouds and thick haze to your landscape. The light source options allow you to position the location of the sun over your landscape, while several options for creating shadows allow you to control the intensity of the shadows resulting from the position of the sun. There's even a nighttime rendering option which replaces the bright sun with a star-filled sky. Other options allow you to adjust the altitudes of the tree line, snowline, the haze distance, and even the sea level of your creation. Buildings can be added to your landscape as well, although this aspect of the program is admittedly cumbersome. Instead of being able to place the buildings within VistaPro, the landscape must be saved as an IFF picture file, loaded into a paint program for manipulation, then

Getting to Work

The main VistaPro screen is divided into two unequal portions; any currently loaded elevation data is represented by a topographic map displayed on the larger left side of the screen, while a strip of buttons and gadgets occupies the smaller right side. This control panel is separated into four sections, each of which deals with a related group of program functions. The interface is slick and polished, replete with all the bev-

eled buttons and gadgets for the *de rigueur* 3-D look common to many AmigaDOS 2.0-compliant applications.

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taken back into VistaPro for rendering. For changing the colors used during rendering, a convenient palette control system allows colors to be manually adjusted—ideal if you're rendering an alien planet with purple skies and fluorescent green trees. ARExx support is included as well, allowing VistaPro to communicate externally with other ARExx-compatible programs.

After tinkering with terrain attributes, a helpful wire-frame view can help you choose the best view for your final rendering. If you're satisfied with the arrangement of your camera within the landscape, you can then select the resolution and pixel depth your picture will be rendered in from the display menu. All of the standard Amiga modes are supported, including HAM, extra-halfbrite and overscan modes. VRLI has also added support for 24-bit display devices, including Digital Creation's DCTV, Black Belt Systems' HAM-E and Impulse's Firecracker-24 display board.

There are four levels of polygon size and four degrees of texturing, in addition to a blending feature for smoothing distant portions of your landscape and Gouraud shading, which filters out large polygons and gives the image a softer, "painterly" look. Most of these features have a cumulative effect upon rendering times. For example, a landscape rendered at the coarsest polygon setting will render quickly, while an image with a higher polygon setting festooned with trees, clouds, lakes and other objects will take a significantly longer time to render. If you want something to keep you entertained while your picture renders, VistaPro offers a sound option which interprets the fractal values used in the rendering to create unusual fractal music. After rendering, your creation can be saved as a completed image or as a landscape. The former can be saved in standard IFF, IFF-24 or RGB (Sculpt-4D's output) formats. Landscapes can be saved as colormap, VistaPro DEM files, or as Turbo Silver object files.

Scripting and Animation

One of the most interesting features of VistaPro is an extensive scripting language. Using this scripting feature allows you to create unaided camera views, change light source settings, and even create animations across your landscape. Script files for each of the landscapes included in VistaPro are present, which create animations of how the landscape may look from the viewpoint of a zooming aircraft. While the scripting commands are undoubtedly flexible—an included script to create animated lightning storms is a good example—they

seem a little cumbersome for frequent use, especially when dealing with large animations.

Outside Help

Partly in response to this unwieldy scripting system, VRLI has released *Makepath*, a \$25 companion program to VistaPro which simplifies and expands the animation capability of VistaPro. *Makepath* offers a powerful, point-and-click interface for creating complex animation in conjunction with VistaPro landscapes. Pre-defined animation characteristics allow you to zoom across your landscape in a variety of vehicles, including a motorcycle, dune buggy, glider, helicopter, jet, and a tree-skimming cruise missile.

Another useful \$25 add-on for VistaPro is *Terraform*, also by VRLI. Using *Terraform*, you can load and edit DEM files, lowering mountains, digging craters and molding canyons. For topographical engineers of a more violent nature, a "nuke" option is available which conveniently craters and deforms the landscape as if struck by a nuclear blast.

Comparisons

VistaPro 2.0 invites comparison with Natural Graphic's *Scenery Animator*. From my experience, both programs excel in different areas. In terms of inherent animation ability, *Scenery Animator* has the edge, although teaming VRLI's *Makepath* with VistaPro evens the odds somewhat. *Scenery Animator* excels at rendering close-up terrain and clouds; VistaPro offers more ways to tinker with dithering, haze, and other landscape features. Ultimately, both programs have a great deal to offer.

Conclusions

As feature-packed as VistaPro is, I'd like to see a few improvements and additions. The most serious omission is the lack of an "undo" feature. A few features of the program—specifically cloud generation and the creation of buildings—seem a little awkward to use. A more seamless integration of these features with VistaPro would be welcome. VistaPro's interface is a model of user friendliness, although several aspects are a little quirky. Most of the requesters for loading files are non-standard; on my A3000, the requester refused to recognize my work: partition, forcing me to type in the name myself. A requester able to sense volume names and insert them on the appropriate gadgets would solve this problem. One of the most intriguing features of VistaPro—the ability to create landscapes, and then load

them into conventional 3-D animation programs—is hindered by weak file format support. VistaPro will export landscapes in *Turbo Silver* format, but support for other object formats such as *Sculpt 3D/4D*, *Imagine*, *LightWave*, and *Real 3D* is strangely absent. The two optional VistaPro utilities, *Terraform* and *Makepath*, increase the already impressive capabilities of VistaPro. It's unfortunate that these two programs aren't bundled with VistaPro already, even if that means increasing the price of the package. I'm sure most users would be willing to shell out another \$50 for these two excellent auxiliary products.

Despite these flaws, VistaPro 2.0 is capable of producing some remarkable landscapes—especially when used with a 24-bit display options, such as with DCTV or Impulse's *Firecracker*. Indeed, VistaPro's quality output has attracted a large following of loyal customers, including science fiction Grand Master Arthur C. Clarke. Virtual Reality informed me that Clarke has been using VistaPro to produce images for an upcoming book discussing the possibility of a terraformed Mars covered with trees, rivers and crops. According to Virtual Reality Laboratories, Clarke's book—tentatively titled *The Snows of Mount Olympus: Gardens of Mars*, slated for publication in '93—will feature several dozen 24-bit color VistaPro renderings of the futuristic Martian landscape, based upon actual NASA data obtained from the Viking missions in the Mid-1970s. Clarke reportedly plans to model such topographically wondrous Martian phenomena as Olympus Mons, Valles Marineris (a 3,000-mile long, 4-mile deep canyon system), and other areas in the equatorial region of Mars.

It's easy to see why VistaPro has drawn such a devoted (and as in Clarke's case, world-renowned) following of Amiga owners. Indeed, VistaPro excels at a most arduous task—producing hardcopy of the human imagination. Whether you're an artist, animator, teacher, or hobbyist, VistaPro 2.0 is sure to please.

VistaPro 2.0
Requirements: 3 MB RAM
Kickstart 1.2 or higher

Virtual Reality Laboratories
2341 Ganador Court
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(805) 545-8515
Inquiry #247

•AC•

Valiant Little Terminal (VLT)

by Merrill Callaway
and Bill Ross

A Virtually Lost Terminal

Recently, we have seen articles about communicating via modem with an Amiga. I had just bought a SupraFAX modem, mostly for its fax capability, but I had also planned to join one of the bulletin boards, probably BIX, following a strong recommendation from my friend Bill Ross who's been "cruising the boards" for years. Bill calls me once or twice a week and sends over—via Zmodem in VLT—the "programs of the week" he's spent hours culling from BIX—he wonders why I haven't joined up yet! Although several reviews of commercially available "Terminal Software" accompanied the recently published information, Bill lamented, "Why in the world don't they ever mention VLT? It's the best terminal program at any price! They probably don't review it because it's free and the commercial developers won't allow it." I knew this wasn't true, so I agreed to write the article if Bill did the research, since he has far more experience than I in telecommunications. The first question I wanted to answer was, why is VLT neglected by the press? I also wanted to get several opinions from users of VLT as the basis of this review.

It's Free But It Ain't Cheap!

Willy Langeveld, a physicist from Holland, started developing VLT for use at Stanford University's Linear Accelerator Center (SLAC) in early 1987. SLAC is funded by the U.S. Government. He wanted to display *Tektronix* graphics on his Amiga 1000, and since no terminal program at the time would do that, he programmed his own, starting in AmigaBASIC and later changing to *Manx C*. Willy integrated the original program with Dave Wecker's VT100 version 2.0, and together they became the prototype VLT. Willy's program is a lot like the axe that has been in my family for five generations. It's had 16 new handles and nine new heads, but it's the same axe. Various iterations of VLT appeared nine times on Fred Fish Disks, the latest (v 5.517) being on Fish Disk No. 668. Little if any of the original code remains. Willy's "night-time hobby," to use his words,

developed into his official job description, "Scientific Programmer," as his talents became apparent within the scientific circles inhabited by professional physicists. Willy also became "official supporter" of his own *rexarplib.library* and the *rexmathlib.library* which add functionality to the ARexx language (V7.4 ARexx column). He eventually became less physicist and more programmer. Willy's other accomplishments include his invention of the XPR standard, which he and Marco Papa developed. XPR is the "External Protocol," or shared library system of telecom. Instead of hard-coding several protocols, a software standard for sending and receiving files via modem, such as Xmodem, Zmodem, etc., into a terminal program, Willy's idea was to use shared libraries which you can update or add to easily. These days all term programs worth their salt use XPR libraries.

Maybe you see why such a gem as VLT got lost: It was developed with government funds—your taxes—at a scientific installation and is available, complete with professionally printed manual, by Amanda Weinstein, free of charge for the asking. It isn't advertised—and how! It's not public domain, not shareware, and is copyrighted by the Board of Trustees of Stanford University.

Another reason it's not well known is that it's called a "Tektronix emulator" if it's mentioned at all, and Amiga people don't feel a need for that. It is little known that there are two versions of VLT, the complete package, and VLTjr, without the Tektronix graphics. Amiga people who lack a mainframe computer connected to a particle accelerator can get by with VLTjr. One would expect that the "plain" version of a terminal program developed by an individual of Willy Langeveld's caliber would be of superior quality, and such is indeed the case.

An Insider's Program

Users present the truest opinions on how good some piece of software is. Bill was kind enough to poll BIX users for opinions about VLT. Bill is a VLT fanatic; apparently BIX users are too; and after I compared VLT to the commercial terminal software included with my SupraFAX modem, I discarded the commercial product. Another reason you don't read about VLT: People on BBSs don't write, they upload. Bill found plenty of unkind remarks about the other magazines' ignoring

VLT in past "terminal program roundups," but these uploaded messages are available only to people already using a terminal program! We newcomers get left out because we usually can't find out about VLT through normal channels.

Who Uses VLT?

Here's a few of the institutional users of VLT.

- AT&T Bell Labs
- Australian National University, Canberra
- Brown University
- Bureau of Meteorology Research Center (Australia)
- Cal Tech
- Digital Equipment Corporation
- Edwards AFB
- Goddard Space Flight Center
- Hughes Aircraft Corp.
- Institut für angewandte Physik (U. Tübingen, Germany)
- JPL
- MIT
- Max Planck Institute for Nuclear Physics (Germany)
- NASA
- National Center for Atmospheric Research (Boulder, CO)
- Observatoire de Paris (France)
- Osservatorio Astrofisico Di Arcetri Largo E. Fermi (Firenze Italy)
- Sandia National Labs
- USGS (several sites)
- University Oulu (Finland)
- Westinghouse Naval Systems Division

Conclusions

You be the judge. Once I got a copy, it's served my humble needs very well indeed. Don't wait for your dealer to carry VLT. You may order a *free* copy of the latest VLT from Stanford Linear Accelerator Center, Stanford University, Stanford, CA 94309. Ask for SLAC-370 (Rev.), UC-414 (M) "A Valiant Little Terminal User's Manual" to get the manual. The latest version of VLT or VLTjr software may be downloaded from BIX or obtained on Fred Fish Disk No. 668.

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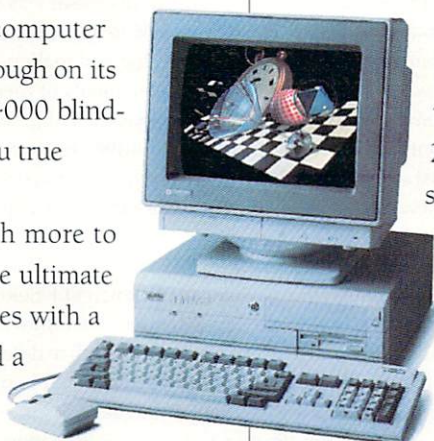
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Radioactive Monitors

There is a growing concern over possible health hazards from low frequency electro-magnetic fields. When the story first broke it was just concerned with electro-magnetic fields given off from overhead power line transformers.

For those of us who use our Amiga computers often, or for long stretches of time, our concern may become more acute. This being the case, you should be aware of what research has taken place and what's been reported thus far. If after reading the following material, you feel the concern to be legitimate, you can construct the simple ELF monitor to check and modify your environment. The ELF monitor is simple to build and costs less than \$25.

Why Wasn't It Sooner?

The question needs to be asked, if ELF radiation does present a health hazard, why has it taken so long for anyone to uncover it. To answer this question, we must look at how scientists first interpreted any potential biological hazards from low-frequency magnetic fields.

To begin with, it was originally believed that weak low-frequency fields could not have a significant impact on living systems. This belief was based upon the amount of thermal energy the ELF fields could produce in biological tissue or cells. The energy transmitted is much smaller than the normal thermal energy generated internally by the cells' internal metabolic processes. In addition, the quantum energy of the fields is far too low to break any chemical or nuclear bonds in the tissue. Therefore, they felt DNA structure to be safe from mutating. Finally, the electric field of the body is much greater than any induced field from the ELF. Looking at all these factors, we can understand why scientists and the scientific community in general quickly dismissed epidemiological studies that described a statistical significant hazard associated with ELF as being flawed in one way or another.

The scientific community has been portrayed by the press as a bunch of hacks, or bureaucratic puppets controlled by various government agencies, or the flunkies of industrial power companies. This isn't true; the reason for the quick dismissal was one of disbelief, not clandestine action for a mass cover-up. Although in truth, a few scientists have stepped over the line and maligned good researchers based upon the profit and loss statements of their employers. These scientists are few in number so that the entire scientific community should not be condemned based upon their isolated unethical endeavors. Most scientists, by their nature as scientists, must remain open-minded to new discoveries as they occur or can expect a platform in a museum.

The Real Deal

Although the mechanism by which ELF fields impact on biological tissue is not exactly known, it has been shown unequivocally that cellular tissue is affected. The best research to date shows that the cell's membrane, or receptor molecules in the membrane, to be sensitive to extremely weak low-frequency magnetic fields.

Some of the effects reported include changes in the flow of ionic compounds through the cellular membranes, changes in DNA synthesis and RNA transcription, and the response of cells to signalling molecules such as hormones and neurotransmitters. In addition, changes have been noted in the kinetics of some cellular biochemical reactions.

The press has emphasized the inherent danger or increased likelihood of various forms of cancer with exposure to ELF. As stated previously, the quantum energy of these fields isn't sufficient to produce any type of chromosomal damage. Simply, what this means is that the ELF doesn't initiate cancer. The association to the increased incidence of cancers involves its promotion after the cancer has been triggered by another agent. The promotion of cancer is caused by the ELF suppression on the body's immune system; see the cell response to ELF above. In addition, at the cellular level it has been determined that



- ✓ What sort of radiation does your monitor emit?
- ✓ How to protect yourself
- ✓ Build a little device to monitor your monitor

by John Iovine

the ELF fields increase the production of the enzyme ornithine decarboxylase, which has been cited to support the promotion of cancer in the body.

The Evidence

As studies progress, more information shall be forthcoming. Here is a short list of reported events that indicates the potential health hazards of ELF fields.

1972 Soviet researchers link electromagnetic fields with low-grade health problems such as fatigue and headaches.

1977 USA: Robert Becker, physician, and biophysicist Andrew Marino testified before N.Y.S. Public Service Commission about the results of their experiments which showed negative health effects due to exposure to ELF fields.

1979 USA: Nancy Wertheimer, an epidemiologist, and physicist Ed Leeper publish a study which shows statistical link between childhood cancers and the proximity of certain types of high-current power lines to the home.

1982 USA: Washington State study examined the data for 438,000 deaths of workers in Washington State, occurring between 1950 and 1979. The results of the study found that leukemia deaths were elevated in 10 out of 11 occupations where the workers were exposed to ELF fields.

1986 Sweden Dr. Bernard Tribukait, a professor of radiobiology at the Karolinska Institute in Stockholm, reported that the fetuses of mice exposed to sawtooth shaped electromagnetic pulsed fields had a greater incidence of congenital malformation than unexposed mice. The sawtooth waveform is a typical waveform generated in CRT monitors.

1988 USA: Maryland Department of Health and Hygiene found an unusually high rate of fatal brain cancer among men employed in electrical occupations.

1989 U.S.A.: John Hopkins University found an elevated risk of all cancers among N.Y. Telephone Company cable splicers. On-site reading of the ELF field showed exposure to 60Hz ELF approximately 4.3 milligauss.

1990 U.S.A.: David Savitz, epidemiologist of the University of North Carolina, has determined through a study that pregnant women who use an electric blanket have children who have a 30% increased risk of cancer as compared to children whose mother didn't use an electric blanket.

Not All the News Is Bad

So far I have concentrated on the negative effects of the 60Hz ELF fields. But you should know that there are positive medical uses to ELF fields. Robert Becker had discovered that ELF fields when appropriately applied (specific frequency and amplitude) can promote healing and therapeutic responses in tissue (Dr. Becker, 1977 evidence). The ELF fields appear to be a double-edge sword being able to heal as well as hurt.

Computer Monitors

Concern over televisions and computer monitors, which are closely related in operation and technology, is nothing new. A number of years ago there was a concern whether radiation given off by color televisions could have a negative impact on health. This concern was based primarily on ionizing radiation, low-level X-rays whose intensity fell off dramatically a few inches away from the TV screen, and turned out to be incidental. But more insidious than this overtly obvious threat is one that has passed unnoticed until quite recently. The low frequency magnetic fields generated by the electromagnets used on the CRT (Cathode Ray Tube) screen.

Computer monitors generate these low frequency magnetic fields emanating in all directions from its position. More important to us is

the relative close proximity we keep ourselves in to the monitor to read the screen and use the computer. Now we have a concern.

Excessive ELF fields emitted by computer monitors is an industry-wide problem; virtually all CRT computer monitors emit excessive ELF unless specifically stated otherwise. Recently *MacWorld Magazine* (7/90 issue) did ELF studies on 10 popular computer monitors. All of the monitors tested emitted excessive ELF at close range. The only recommendation that they or I can offer you at this time is to increase the distance between you and the monitor. A working distance of two-feet is recommended. Below are the results I obtained when I checked the ELF output of one computer monitor I use in my home.

Tale of the Tape

The ELF field propagates from all points around the monitor, not just from the front screen. This fact becomes important in offices where computer terminals are in close proximity to one another. Operators can be exposed not only from their own monitor but also from a neighbor's monitor.

It's important to realize that the ELF field given off will vary somewhat from monitor to monitor. These are the measurements of the 60Hz ELF field I read from my 1084 Amiga monitor. My readings are given in milligauss. Magnetic field strength is measured in gauss. This unit of measure is too large for our purposes. We use 1 milligauss which is 1/1000 of a gauss.

Distance	Front	L-Side	R-Side	Back	Top	Bottom
0*	78	97	90	125	270	N/C
4"	24	14	16	37	65	N/C
12"	5	1.5	1.5	8	9	N/C
24"	< 1	< 1	< 1	3	1.5	N/C

As you can see, the ELF strength drops off dramatically with distance from the monitor. I could not check the ELF radiating from the bottom of the monitor because of the way it is situated in my work space.

Precautions Around the Home

There are other sources of ELF around the typical home. Before I discuss this, I would first like to explain a little bit about dose-rate. An appliance in the home may generate a very strong ELF field, but if the appliance is used only a short time, its risk factor is probably low. Note the word "probably" in the last sentence. Currently, exact data on short-term high-strength fields hasn't been gathered. Electric razors fall into this category. Line operated, rather than battery-powered razors, do produce extremely strong ELF fields, and are held in very close proximity to the body, but because they are used only a short time, the total exposure or dose is small and they are probably safe.

In contrast to the electric razor is the electric blanket. Here we have a much lower ELF field strength but a much longer exposure.

Dr. Nancy Wertheimer, who first published the epidemiological study showing a correlation between 60Hz powerlines and increased incidence of childhood cancer in this country, has also performed similar research on users of electric blankets. She has found that there is a higher incidence of miscarriage among pregnant women who use electric blankets as compared to pregnant women who do not.

For users of electric blankets the following recommendations can be made. Switch to ordinary blankets. If you like an electric blanket use it to heat your bed before going to sleep, but unplug it before you actually get into bed. It is not sufficient to just turn off the blanket because many blankets still produce the ELF field as long as they are plugged into the socket.

It's impossible for me to state what is a safe long-term dose rate because it hasn't been established. Effects have been reported at dose rates as low as 1.2 to 3 milligauss. So I would venture to say to try to limit long-term exposure of ELF to 1 milligauss or less.

Television

Television sets fall into the same category as our computer monitors. And like our monitors, they produce a field that propagates around the entire set. The ELF field will propagate through the standard building material such as wood and plaster. So if a TV set is placed against a wall, the ELF will propagate through into the adjoining room. So it becomes important not to place a bed against such an adjoining wall opposite a TV set.

Fluorescent Lights

Fluorescent lights are much more efficient—more light per electrical watt—than ordinary incandescent bulbs. Because of this, fluorescence has become the standard lighting system used in most commercial office and industrial lighting. However, fluorescent lights require a ballast transformer that generates a ELF field. If you're using a small fluorescent lamp as a desk light, you may want to consider switching to incandescent lamp, which generates virtually no ELF.

This also applies to the new energy-saver fluorescent lamps that replace standard incandescent bulbs. These are acceptable for overhead lighting, but you may want to reconsider using them for close-up work or desk lighting.

Bottom Line

The controversy still continues on the impact and extent of ELF fields on human health. I feel there is sufficient evidence for us to take

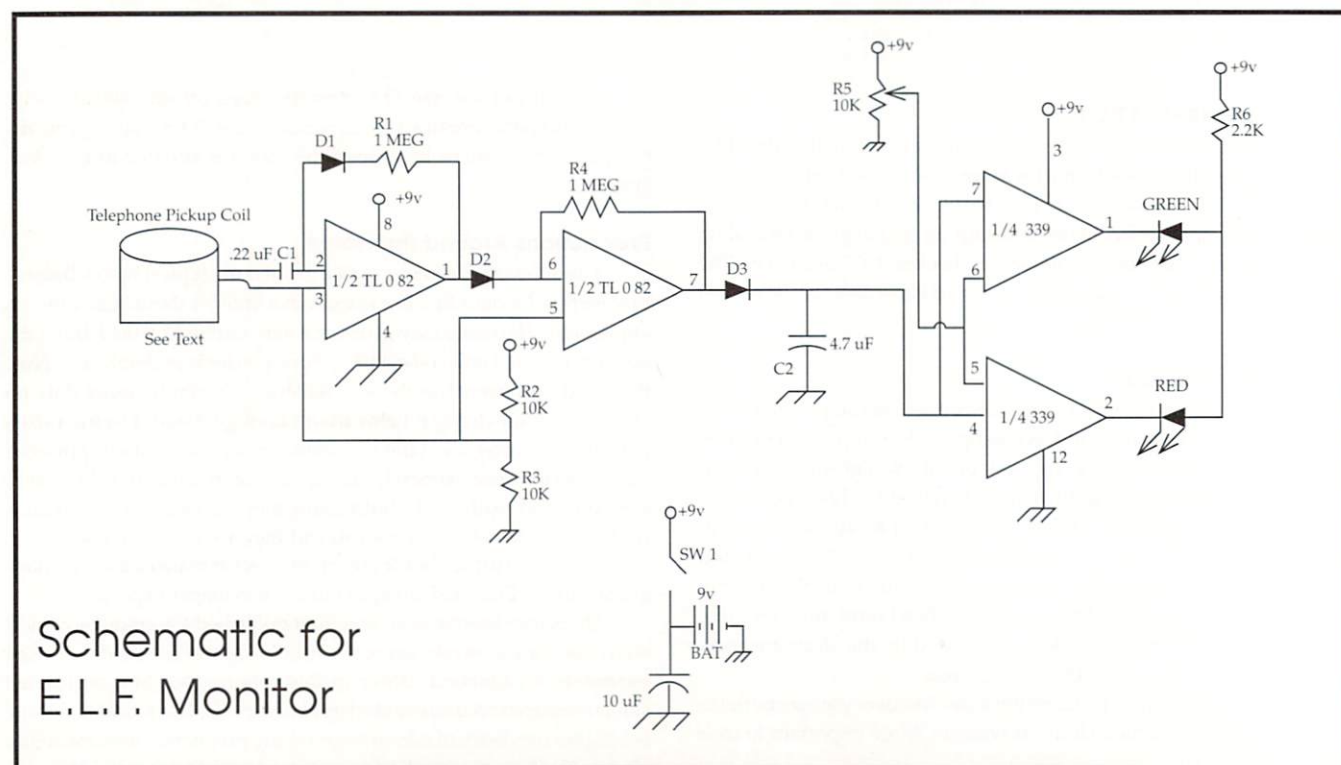
a conservative view on the amount of exposure we should allow ourselves to be exposed to. I would try to limit long-term exposure to 1 milligauss or less. Of course it's difficult to know what your ELF exposure level is without a milligauss meter, the device used to measure ELF. The ELF monitor that you can build measures the 60Hz magnetic field from any appliance. The resolution, or trip point, of the meter is about 1.5 to 2.5 milligauss. By using the meter around your home, apartment, or work space, you will be able to identify potentially hazardous ELF fields and their sources for you to implement corrective action. Whether or not you decide to build the meter, I do advise following the precautions outlined above; they will help to reduce your ELF exposure.

ELF Sensor

The heart of this project is the ELF sensor. The sensor detects the 60HZ field and outputs a voltage in proportion to the magnetic field strength. The sensor we are using is a Radio Shack telephone pick-up coil. This simple sensor doesn't have the resolution of the more expensive sensors, but it is sufficient to build a simple low-cost go/no-go ELF monitor.

Monitor

The circuit uses a Dual-Bifet op-amp. A germanium diode in the feedback loop provides non-linear feedback. The diode allows the op-amp to amplify and rectify millivolt signals from the sensor. When there is insufficient output voltage from the op-amp to drive the diode into conduction, the feedback is open and the op-amp operates at its full voltage gain. At this point only a small voltage from the ELF sensor is required to produce a large output. In doing so it drives diode d1 into conduction where resistor r1 provides a lower closed loop gain of the input signal. In practice the millivolt ac signal from the sensor is put through a half wave rectifying op-amp amplifier, where diode d1 in the feedback loop compensates for the voltage drop across diode d2. The second half of the op-amp provides additional amplification of the signal that is sufficient to drive the 3914 display chip.



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Circle #108 on Reader Service card.

I chose to use germanium diodes for d1, d2, and d3 since these
have a lower voltage drop, approximately .3V, than silicon diodes,
approximately .7V, and provide superior performance from the op-
amp. The PC mounted potentiometer R5 allows calibration of the
meter.

Capacitor C1 is provided on the input to block any DC component.
A simple two-LED display is made from a 3914 quad comparator.

Construction

Assemble and solder components on a small PC board. Keep lead
lengths as short as possible to minimize stray pickup in the wiring.

The ELF sensor has a shielded wire protruding from the side. Cut
this wire off, leaving about three inches on the sensor. Split and strip the
wires. Install the sensor to the front of the plastic case using epoxy (see
photo) or hot glue. The top of the case is drilled for the two LEDs and
power switch. Power for the circuit is supplied by a single 9V battery
that is mounted on the inside of the front panel; see photo. Use a non-
conductive plastic case such as the one in the parts list from Radio
Shack. A metal case will impede any measurements.

Calibration

Calibration must take place in an area that is relatively free of
60HZ ELF. Turn on the monitor and adjust R5 so that the green LED is
just about to turn off and the red LED is about to turn on. That's it!

The sensitivity of the monitor is about 1.5 to 2.5 milligauss. The
monitor quickly detects an ELF field; however, it is a little sluggish,
taking one second to respond once the field is removed.

Using the ELF Monitor

The ELF monitor will measure the 60HZ magnetic field from any
appliance. To test the unit, turn on a television, and starting from
approximately two feet away, slowly walk the sensor closer to the set.
As you get closer, the green LED will turn off and the red LED will turn
on.

As you walk around checking various appliances, you'll probably
find that by rearrangement, you can lower your ELF exposure. For
instance, one of my computers has an external power supply that
emitted strong ELF; I simply moved the power supply farther away
from my work space to a more discrete location.

The ELF monitor can also detect a static magnetic field when it is
moved into or out of the field. If the monitor remains fixed in the
magnetic field for a short time, the green LED will come back on.

Parts List

Sensor Telephone Pick-up coil	RS# 44-533B
IC1 Dual Bifet Op Amp	RS# 276-1715
IC2 339 Quad Comparator	RS# 276-1712
S1 On-Off switch	RS# 275-690
C1 .22 uF cap	RS# 272-1070
C2 4.7 uF	RS# 272-1012
D1-D3 Diodes IN34A	RS# 276-1123
R1,R4 1 Meg resistor 1/4 watt	
R2,R3 10 K " " "	
R5 10 K PCB mount micro	RS# 271-282
R6 2.2 K resistor 1/4 watt	
Red LED	RS# 276-041
Green LED	RS# 276-022
SW1 SPST	RS# 275-634
Case	RS# 270-233

Misc. 9V battery, clip and holder, LED holders, PC bread board

•AC•

Please Write to:

John Iovine

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Fall River, MA 02722-2140

The Video Toaster is almost an all-in-one solution for creating graphics and presentations. As powerful as it is there are still several Amiga programs that can be used with the Toaster to boost productivity even more. This is especially true with new Toaster workstation owners who are using an Amiga for the first time, being unaware of the vast resources back at the Workbench screen. In this edition of the Video Slot we'll touch on a few suggestions to get even more out of your Video Toaster system in the areas of painting and 3-D as well as go over a few tips along the way.

Here's the first tip: Use the Get Small project as often as you can. There is really no need to have all the Toaster effects loaded into memory during every Toaster session. If you are painting, creating CG pages, or doing 3-D modeling and you have all of the 2.0 effects loaded in, you are slowing down your system as well as taking up a few megs of precious memory. It's best to use Get Small as your boot project; select it in Preferences before you exit the Toaster, and it will boot up the next time you enter the Toaster. Having done this, you should especially notice the Toaster is snappier on systems with 7MB or less; the Toaster will run on 5MB just fine without, however, the ability to do swap screens in *ToasterPaint*. The reason I mention using Get Small is that most of the programs I'll mention can be multitasked with the Toaster software. Since the Toaster takes up a large amount of memory as it is, every bit that can be freed up to use external programs is much needed.

Power Toaster Painting

We look to external programs because of a weakness we might sense in the Toaster system. The Toaster is an incredible production tool but it can't do everything

Composite Toaster Frame images can quickly be created using Art Department Professional.

by
**Frank
McMahon**

THE VIDEO SLOT!

perfect. Let's talk ToasterPaint. ToasterPaint started as New Tek's *DigiPaint* a few years back. I never liked *DigiPaint* because in video work I always worked in overscan and *DigiPaint* didn't directly display lo-res overscan; you had to scroll around. ToasterPaint multiplies this problem because now you are scrolling around a hi-res overscan screen and can see even less of the big picture during editing. Although ToasterPaint is good for basic touch-ups—some of its blending tools are excellent—it cannot and should not be used for constant graphic creation. That's when an external Paint program comes in.

Painting outside of the Toaster allows a far greater range of tools and much more flexibility, not to mention seeing your entire image on-screen at one time. The downside is, most paint programs only work in standard Amiga bit-plane amounts allowing 16, 32, or 4096 colors, far fewer than the Toaster is capable of displaying. The most popular paint program on the Amiga has to be *DeluxePaint IV*. If you don't have it yet, get it because it makes an excellent complementary paint program for the Toaster. If you use the highest resolution and maximum overscan, then images created in *DeluxePaint* can be loaded right



into ToasterPaint and saved as a standard Toaster Frame.

Toaster Templates

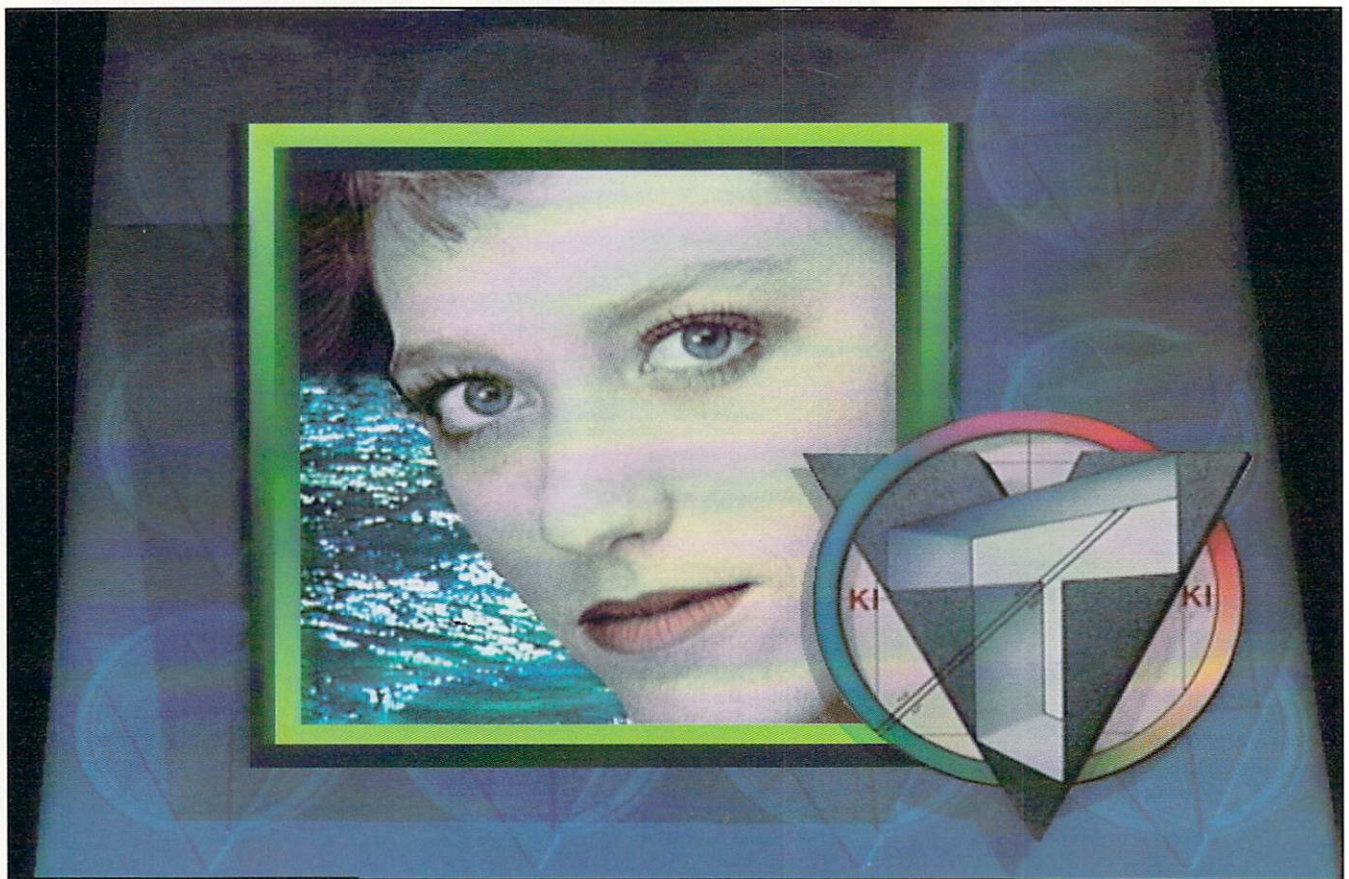
Another handy use of a paint program such as DeluxePaint is creating a graphic template for ToasterPaint images. For example: say you wanted to create a montage of images and some text as a Toaster Frame. You've found trying to line up images from within ToasterPaint takes a great deal of trial and error. Just use Deluxe Paint's hi-res max-overscan mode and place solid boxes in approximate locations where your images are going to go. You can even add text in DeluxePaint as well. (Tip: Use a black-to-white gradient spread and stamp down white letters on a black background with anti-aliasing on to eliminate jaggies) You can add text in ToasterPaint later, but again, it's a little difficult to line up words on the screen especially when they start to get a large amount of letters. You can create templates for numerous graphic projects or even create a default ToasterPaint template: a series of thin-lined squares that are numbered. This allows you to approximate where you are in relation to the screen rather than scrolling around a large, completely black canvas. The lines or

reference points can be easily erased at any time using Toasterpaint after you have lined up your images. Templates take a few minutes to create and can save hours of time in the long run.

Images can be completely created in DeluxePaint and then shaded, tinted, and colored in ToasterPaint. You have the advantage of using Deluxe Paint's powerful editing tools along with ToasterPaint's numerous shading and coloring options. Don't think that every Toaster screen has to have several million colors to stand out. At our cable studio we use on a daily basis several Toaster frames originally created in DeluxePaint using only 16 colors. What if you want to create images with more than 16 colors? One option is to use an image-processing program such as *Art Department Professional* or Black Belt's *Imagemaster*. Of the two, only Imagemaster lets you paint using an internal 24-bit palette on a standard Amiga screen. For example, you could create full-blown 24-bit overscan pics using HAM mode and 4,096 colors. On a standard Amiga screen you'd only see a 4,096 color lo-res screen representing your picture—the whole picture, I might note. However, when you save it as a 24-bit file and load it as an RGB file in ToasterPaint,

you'll see it in full 24-bit color. Art Department Pro contains many cropping and image composing tools, with the preview screen being in black and white. While both these methods may seem limiting, you'll quickly discover that the hundreds of new tools for creating ToasterFrames quickly outweigh working in a lower color resolution mode. Of the two, Art Department Pro has fewer features but is more user-friendly as well as being faster on most processing functions. Imagemaster has many more options but is a little more clumsy to move around in as well as being slower on some complex processing.

The next step would be to buy a separate 24-bit painting/processing program but such programs need extra hardware to run. Packages such as GVP's video board which use the video slot don't qualify since the Amiga has only one, but maybe not for long as products on the horizon will be able to expand the Amiga to two or more video slots. The Firecracker board and DCTV are the most widely used 24-bit paint programs accepted by Toaster users. The Firecracker is an excellent Toaster Frame paint system, which also runs in 24-bit mode using Imagemaster and



A ToasterFrame of Kiki.

Art Department Pro. It's a bit pricey, though, especially after the initial Toaster investment, and you need a separate monitor if your video slot has a genlock in it. A lower cost choice is the DCTV unit by Digital Creations. Its software includes probably the best 24-bit paint program on the Amiga; however, the display is only composite, and not nearly as sharp as the Toaster output but very usable. New 24-bit boards are springing up which can make the choice even more complex. The main objective is to replace ToasterPaint with a usable, productive paint and/or image-processing program using standard Amiga resolutions or 24-bit with extra hardware. It is without a doubt the single most important improvement you can add to an already powerful Toaster system.

Lightwave 3D Extras

I'm amazed at the amount of Toaster users learning and using *Lightwave 3D*. When I train beginning users at colleges, cable stations, and corporations, they all want to get involved with the 3-D aspect as quickly as possible. I thought *Lightwave* would be a neat add-on for 3-D fans, but I'm surprised that so many non-3-D types have begun incorporating *Lightwave's* images and animations into their productions. Like *ToasterPaint*, there are numerous add-on programs that can turn a *Lightwave* user into a power-user. The main one being an auto-trace

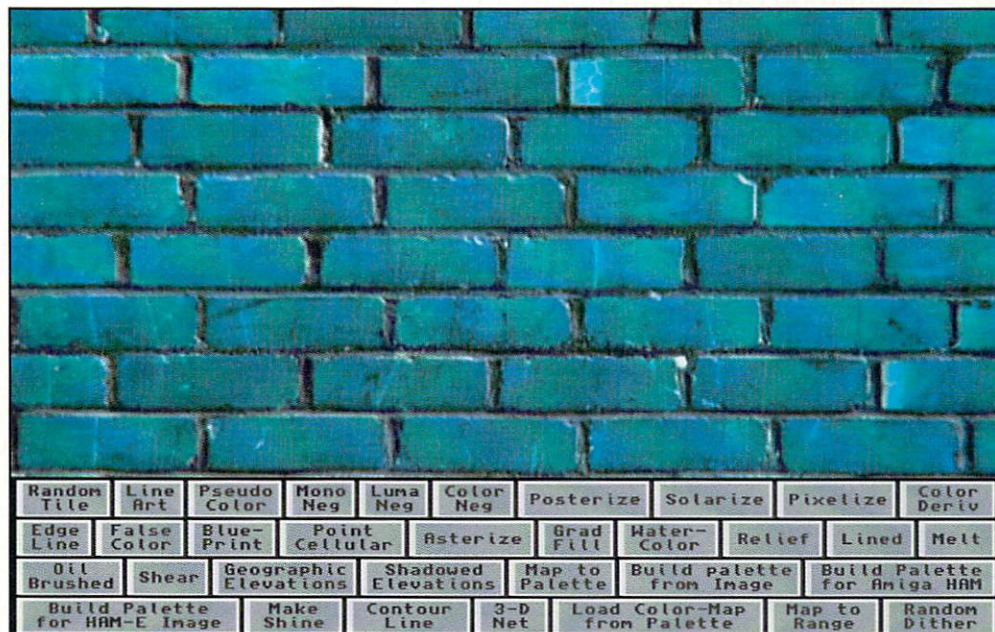
program such as *Pixel 3D*. *Pixel 3D* allows creating an object by drawing it in a separate paint program like *DeluxePaint*. Once the image is drawn, it traces the outline of the image and creates a 3-D object. If you've used the *Modeler 3-D* in the Toaster and found it difficult to create objects from scratch, then definitely purchase an auto-tracing program. You can create almost any object by drawing it and then extruding or spinning it. I create a lot of my objects using primitives drawn in *DeluxePaint* and then processed with *Pixel 3D*. On the other hand do take the time to learn *Modeler 3-D*; it has a little steeper learning curve but aside from the unorganized layout, it is a very powerful program.

If I don't create objects with *Pixel 3D* or *Modeler 3-D*, I always go back to the same program: *Caligari 2*. I find creating objects in *Caligari* as natural and user-friendly as

arranging objects using *Lightwave's* layout. First of all, *Caligari's* modeler is in true 3-D perspective. Quickly creating complex objects is very fast and easy. Importing objects into the Toaster is as easy as it gets: *Caligari* can save objects as *Lightwave* objects, with no need for a conversion program like *Pixel 3D*. If you have mastered *Lightwave's* layout, then you'll quickly pickup on *Caligari's* methods; they are both very similar. There are other 3-D programs that save *Lightwave* objects such as *Draw 4D Pro* as well as more powerful modelers with advanced features. Stand-alone modelers have been around awhile and newer ones

disk can free up tremendous amounts of hard drive space. Speaking of fonts, don't forget that regular Amiga fonts can easily be converted to Toaster fonts using *New Tek's* included utility. This allows you to buy regular Amiga font packages and convert them rather than spending money buying costly Toaster font packages. Another good add-on package is a set of textures. Nothing is more useful than a set of images of marble or wood for backgrounds and 3-D texture maps.

We've only touched on a few Toaster add-ons and there are hundreds more. The main goal is to make the Toaster as produc-



Tinting such as Color Negative can be used on Frame Store pictures using Imagemaster.

have a strong list of features and are fairly low cost. If you are just getting into 3-D, *Caligari* will be as natural in modeling as the Toaster is in layout. If you are more advanced, *Caligari's* numerous features may not be enough and a stand-alone modeler with specific features may be in order.

Directory Processing

Another much needed program for the Toaster is a directory utility such as *Directory Opus* or the excellent public domain directory program *SID* by Tim Martin. This allows creating directories, moving images and files, backing up Toaster data to disk, deleting files, and doing much more. The first thing to do is move Toaster files that are not used so often onto floppies. Back up little used Toaster frames and delete them off your hard drive. Moving all the *Lightwave* objects and seldom used Toasterfonts on to

tive as possible. One final suggestion: Once you start using the Toaster, you'll tend to stop using Amiga programs that you had been using for presentation purposes. Well, don't. The Toaster's built-in genlock is of great quality and very usable, as of version 2.0, but there are many Amiga programs that can do things the Toaster never could. Using them along with the genlock can bring even more features to your Toaster system. The Toaster system is indeed very powerful, but with a little help from external programs, it will really shift into overdrive.

•AC•

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BOOM BOX

by Rick Manasa

Boom Box (\$59.95) is a music creation program. It comes on two non-copy-protected floppies, one program disk, and one with sound files. You will need to send in your registration card to qualify for upgrades and tech support. You can run the program from floppies but it is hard-drive installable. The included *Install* program does the tough stuff for you. Boom Box likes to multitask, which was unexpected considering how some music creation programs like to hog resources. The manual addresses both the IBM and Amiga versions, and does so in an easy-to-follow manner.



Top: The Boom Box Jam screen. Bottom: The Boom Box Remix screen.

Boom Box can use any IFF sound file in addition to the ones provided. Sounds you may have created elsewhere or picked up from the public domain should work without a problem in Boom Box. You can swap sounds on the fly or design your mix ahead of time.

There are actually two types of sound files used in Boom Box. The music files have a .BOX extension, and can be purchased from Dr. T or converted from sequence files created in Open mode in Dr. T's KCS sequencer. While there is no information given in the manual concerning this process, the conversion directions and docs are available to registered owners.

The second type of file is called a Sound, and is a one-shot sample file, in standard 8SVX IFF format. These are the kind of samples you can create with programs like *A-Sound Elite* and *AudioMaster*. There are also tons of these files available on bulletin boards, user groups, or sources such as the Fred Fish catalog. Sounds are what you add to the basic music bed to give it your own twist.

Recording Is Easy

Recording a mix in the Boom Box screen is a snap. Hit Record and then Play on the Boom Box just as you would if you were recording something to cassette tape. Unless you've loaded a different .BOX file, Boom Box will start playing its default

A look at the latest music creation package from Dr. T's.

music file and wait your input. You can control two sets of parameters when recording—the triggering of the six samples and the volume of each of the four voices. You can trigger the samples by hitting the keys 1-6 either on the numeric keypad or on the QWERTY keyboard. The volume of each voice is controlled by moving the sliders labeled “DRUM,” “BASS,” “MELDY,” and “RAP.” With the music playing in the background, you can insert samples and fade any one of the faders up

Shift button and slider control the pitch of the echo. The pitch can be shifted higher or lower than the original signal. Use these effects judiciously or ridiculously as the mood strikes you. A light touch lends itself better to musical effects while a heavy hand takes you to outer space and beyond. These controls can add effects to both the samples and the music.

With the Jam screen, you can access everything that is available in both the Boom Box and the Remix screens. In

can be done with the mouse can be accomplished from the keyboard. The mixing and FX sliders are hard to control accurately or smoothly with the mouse, so it's nice that you can control these sliders from the keyboard as well. It makes it easier to execute small and gradual changes. One tap seems to move the slider by one increment and shift-tap moves it in larger increments. Hold the key and you get a gradual fade in or out of the selected function. Contrary to the statement in the

Keyboard control goes a long way toward making Boom Box a more serious music creation tool without sacrificing its potential for fun.

or down. You can play back your mix by hitting the Play button. If it's not right, you'll have to start over. When you've gotten something you like, you can save the whole mix to disk. The process couldn't be much simpler.

The Remix screen is where you add echo and pitch shift, change tempo, and retrigger and loop measures. All these features can be recorded to a mix right there on the Remix screen. This feature is in addition to inserting your own samples and varying the volume as you can in the Boom Box screen.

Each channel has an FX button for turning the echo on and off and a slider for controlling the amount of effect. There are three additional controls for adding echo to your mix. The first, FX Time, sets the delay before the effect will start, while the FX Repeats button controls the number of echoes Boom Box will generate. The Pitch

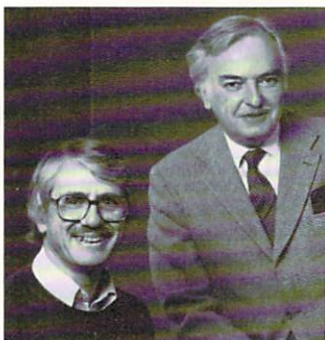
addition, you can change the music patterns. There are three sets of buttons on the bottom of both the Remix and the Jam screen for selecting patterns. While the pattern buttons reflect changes happening in the song in the Remix screen, you can make those changes only in the Jam screen. The first set of buttons control the drum patterns, the second set the bass patterns, and the last set control the synth or keyboard patterns. The fourth channel is where you control your six sampled sounds. Clicking once on an icon will make that pattern active immediately. If it is the active pattern, then clicking on the icon will mute that pattern out of the mix.

Dr. T's Keys

Dr. T's software has always provided strong support for keyboard equivalents to mouse and menu operations, and Boom Box is no exception. Almost everything that

manual, I found that there was no change in the volume or effect level when I clicked on either side of the slider. You'll have to grab the slider itself and move it or use the keyboard equivalent before Boom Box will recognize your intention. Much of what separates the men from the boys in remixing comes from the ability to insert sounds quickly and accurately. Keyboard control goes a long way toward making Boom Box a more serious music creation tool without sacrificing its potential for fun.

Another strong suit in the Doctor's hand is the continued support for the Help key. All three screens in Boom Box have a Help button. You can click on the Help button, select Help from the menu, or you can hit your Help key on the keyboard and be directed to any number of help files. While Boom Box is a program that is very easy to grasp, it's nice to have ready access to assistance in case you get stuck. Three



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RELEASE DATE:
SEPTEMBER 25, 1992

Circle 191 on Reader Service card.

cheers to the Doctor for being on 24-hour call.

Comments and Criticisms

You'd have a hard time finding something this easy to use that was as much fun. Yet Boom Box reminds me of the cliché about Chinese food: as soon as you're done eating, you're hungry again. In the case of Boom Box, I often left the program sessions wishing for something more. This is not to take anything away from the real entertainment value provided by Boom Box. It just seems that with a little more effort, it could offer the non-musician a lot more for his money.

The Good Doctor could have made it easier to create alternate music beds. Why not a simple SMUS-to-.BOX file conversion? Why even have a proprietary format at all? Those of us well-versed in *SoundTracker*, *MED*, or any of the other programs that create music on the Amiga will have to purchase KCS if we want to inject our music into the mix. Apparently, Dr. T aimed Boom Box squarely at the type of person who doesn't want to work too hard to make a joyful noise. While I understand

the rationale for doing it this way, the fact remains that many Amiga owners either make music using the four native voices of the Amiga or have a lot of fun working with music created by others for the Amiga. Boom Box would seem to provide an ideal avenue for further expression of the Amiga muse. And for those into MIDI or (shudder) the MS-DOS version, a standard MIDIfile converter would make Boom Box a more popular and immediately useful program.

Some of the tracks you can create with Boom Box would be ideal for applications outside the program as well. Why not have a .BOX-to-SMUS or MIDIfile conversion program as well? Boom Box could provide music for multimedia applications, with a minimum of fuss for the non-musician. It would seem to be a relatively simple routine to develop that would pay big dividends in the Amiga marketplace. Is converting formats really that difficult, or was it simply overlooked or undervalued? Let's hope the folks at Dr. T's take another look at developing a way to share files without having to purchase KCS. That's a mighty expensive conversion utility for a

program as reasonably priced as Boom Box!

Boom Box seems to be similar in many respects to a sample editor, especially in the mixing and effects area. Most sample editors have a larger range of effects available—phasing, flanging, chorusing, equalization, etc. How about adding some more effects to the next version of Boom Box? While that may not be strictly in the DJ tradition, it would increase the potential of an already enjoyable program.

Some kind of editing would come in handy. You can't overdub or punch in and out in Boom Box. If you get three minutes of really cool stuff and then flub your next move, you'll have to do everything over again from the beginning. While I understand the value of keeping it simple, this omission may be counterproductive. Even a simple cassette player will let you pick up recording where you left off. A small set of basic editing tools wouldn't harm the Boom Box concept and would head off certain frustration down the line.

A Wise Choice

Boom Box will provide hours of fun for all ages. The short learning curve insures almost instant gratification, which we all secretly crave from computer programs anyway. And while Boom Box doesn't exactly qualify as gourmet dining, it does provide much needed nourishment for the creative soul in all of us.

•AC•

Boom Box

Dr. T's Music Software
124 Crescent Road
Needham MA 02194
(617) 455-1454

**Special Requirements: Any Amiga with
1MB RAM and Workbench 1.3 or greater
Inquiry #255**

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Polishing BASIC Programs

by Marianne Gillis

Being very similar to English, BASIC (Beginner's All-purpose Symbolic Instruction Code) is extremely easy to learn. BASIC manuals supply the language and syntax tools while you supply the inspiration. This is a workable partnership but somehow inadequate since no one provides instruction for the polish. So when it comes to comparing home-grown software with commercial software, there can often be some glaring inadequacies. A program may work just fine but still manage to seem amateurish. So, we, the struggling programmers, are forced to sneak a peak at the work of the experts, hoping to glean some of their secrets.

One way to gain access and insights into something you like in a program is to grab the actual screen and capture it as an IFF file. Having it as IFF, you can then load it into a paint program and look at it with a magnifier. Two PD screen grabbers which you might try are *ScreenX* by Steve Tibbit (Fred Fish #158) and *PicSaver V1.0* (Fred Fish #483).

Of course, you can't just use anything you "grab" which is commercial because the copyright on it exists to protect not only the code but also the interface, the artwork, and the music from any "borrowing." Scrutinizing a screen, however, can yield some of its secrets; chances are you can apply some of these to your own programs to give them a more professional look.

You may notice an effective use of shading or highlighting, drop shadows, palette cycling set-ups used to create a sensation of motion, and general tips on the art of drawing with pixels of light.

Becoming aware of visual appeal in commercial programs will help you start to analyze your own. By grabbing them and tinkering with them inside a paint program, you can try many color combinations, shadows, and other effects without having to laboriously code every detail.

Also, check your screens for balance. Are things which should be centered centered? Does it need a title or perhaps larger print? Does it look flat and uninteresting? A simple 3-D effect can sometimes be created by outlining an otherwise dull box—rectangle, gadget, or whatever you want to call it—with complementary shades, lighter and darker than the box itself.

Try outlining the top and left side of the box in a lighter shade and the bottom and right side in a darker shade. Add successively more lines for a stronger effect. In medium resolution, it will be necessary to use about twice the number of vertical lines as horizontal lines because the shape of a pixel is a vertical rectangle. The co-ordinates feature in the paint program may help align changes especially for coding purposes.

Now, let's concentrate on the start-up of the program. Drawing or writing things on screen for setup can look a little messy and inelegant. One easy way of getting a smooth look is setting all the palettes to black during the start-up and once everything is on-screen, assign the proper palettes.

Instead of changing them in one step per palette, you may opt to do a fade-in using a FOR...NEXT loop and incrementing the RGBs in tiny steps. Try something along the following lines:

```
FadeIn:
  FOR i! = 0 TO 1 STEP .2
    PALETTE 0,i!*.14,i!*.38,i!*.2 'green
    PALETTE 2,i!*.7,0,i!*.1 'red
  NEXT i!
  RETURN
```

Note: For a fade-out use, a negative increment (i.e., use -.2 instead of .2). I have used "i!" as my floating point variable because "i" is normally used only for integer values. (Obviously it is not necessary to include any black palettes in the loop.) If you decide to compile your program, it will run faster and so will the loops.

Therefore you will have to put delay loops into the fade-in loop; otherwise, your "fade-in" will revert to a "pop-up."

Another way of accomplishing a smooth start-up is to set up two screens and direct the start-up to the back screen. When you are finished setting up, simply flip the back screen to the front, or close the front screen.

Now let's look at the end of the program. When you quit the program do you end up at the AmigaBASIC output window? If so, change it to break to SYSTEM. I always put the following code into my BASIC programs:

```
ON BREAK GOSUB Quit
BREAK ON

(these two lines appear early in the program)

Quit:
  SCREEN CLOSE 1: WINDOW CLOSE 2
  MENU RESET: LIBRARY CLOSE: SYSTEM
  (this subroutine, or some variation of
   it, is a tidy end, resetting and
   closing everything)
```

While you are still in the process of debugging or rewriting the program, REM out the ON BREAK...BREAK ON lines. That is, put REM or an apostrophe at the beginning of those two lines; otherwise, you will always Quit to Workbench and that can be a nuisance when you are still editing code.

Now for an icon. If you think icons don't matter much, try to remember that the icon is the first impression of your program that any user will get. So a boring icon says a boring program. The Extras disk which came with your Amiga has some useful programs which are simple to use and worth the effort of familiarization.

If your program is to remain uncompiled, your icon type is "Project." If, however, you compile your program, your icon type becomes "Tool." Forgetting this distinction can eat up many hours just re-doing. One quick way to change the icon type is to use an icon program, such as *IconMaster* by John Scheib (AmigaZoneFile #17622; Shareware: \$10). Always make a second copy of any icon which is worth keeping, because when you make a change to your program, the icon will automatically revert to the default icon.

Having done all this, you will inevitably fantasize of fame and fortune as you look at your program. So why not go for it? See whether or not anyone else likes it. Send it to the editor of a disk magazine or at least give it to your user group.

•AC•

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Origins — genealogy database

NEW PROGRAM!



Origins is a dedicated data base for keeping track of genealogical information. It will support databases of over 6 million individuals. The user interface is designed to be both easy to use and very powerful. **Origins** will correctly handle multiple marriages, step-children, unmarried parents, and other difficult situations that some programs refuse to allow. Lists Persons, Marriages, Parent/Child Index, and Soundex. Generates reports on Person, Family Group sheets, Pedigree Chart, Descendants Charts, and Tiny-Tafel. Features include:

- ☛ Automatically call your AREXX compatible editor to create Source and Note files. These files may also be written and displayed in hypertext format.
- ☛ Support for IFF files. Pictures of individuals, marriages, baptisms, and family groups may be displayed instantly.
- ☛ Generate Tiny-Tafel listings for use on the National Genealogy Conference.
- ☛ Search on any combination of fields or by Soundex codes.
- ☛ Many useful AREXX functions are included.
- ☛ Import and export data between Origins and other genealogical programs using the GEDCOM file format.
- ☛ Context-sensitive hypertext help is built in.

Origins requires V1.3 or later of the Amiga OS, at least 1 megabyte of ram and 2 floppy drives minimum configuration. A single floppy data disk will hold approximately 2000 person and 500 marriage records. Suggested retail price: US\$85

ReSource — V5 macro disassembler

ReSource is an intelligent interactive disassembler for the Amiga programmer. **ReSource** is *blindingly* fast, disassembling literally hundreds of thousands of lines per minute from executable files, binary files, disk tracks, or directly from memory. Full use is made of the Amiga windowing environment, and there are over 900 functions to make disassembling code easier and more thorough than its ever been.

Virtually all V2.0 Amiga symbol bases are available at the touch of a key. In addition, you may create your own symbol bases. Base-relative addressing, using any address register, is supported for disassembling compiled programs. All Amiga hunk types are supported for code scan.

ReSource runs on any 680x0 CPU, but automatically detects the presence of an 020/030 CPU and runs *faster* routines if possible. **ReSource** understands 68030 instructions and supports the new M68000 Family assembly language syntax as specified by Motorola for the new addressing modes used on the 020/030 processors. **ReSource** and **Macro68** are among the few Amiga programs now available that provide this support. Old syntax is also supported as a user option.

An all new online help facility featuring hypertext word indexing is included. This enables you to get in-depth help about any function at the touch of a key! **ReSource** includes a new, completely rewritten manual featuring two tutorials on disassembly, and comprehensive instructions for utilizing the power in **ReSource**.

ReSource V5 will enable you to explore the Amiga. Find out how your favorite program works. Fix bugs in executables. Examine your own compiled code.

"If you're serious about disassembling code, look no further!"

ReSource requires V1.3 or later of the Amiga OS, and at least 1 megabyte of ram. **ReSource V5** supercedes all previous versions.

Suggested retail price: US\$150

Macro68 — V3 macro assembler

Macro68 is the *most* powerful assembler for the entire line of Amiga personal computers. It supports the entire Motorola M68000 Family including the MC68030/40 CPUs, MC68881/82 FPU's and MC68851 MMU. The Amiga Copper is also supported, eliminating the need for tedious hand coding of 'Copper Lists'.

This fast, multi-pass assembler supports the new M68000 Family assembly language syntax, and comes with a utility to convert old-style syntax source code painlessly. Old-style syntax is also supported, at slightly reduced assembly speeds. **Macro68** is fully re-entrant, and may be made resident. An AREXX interface provides "real-time" communication with your editor. A shared-library allows resident preassembled include files for incredibly fast assemblies.

Most features of **Macro68** are limited only by memory. It boasts unparalleled macro power. There are many new and innovative directives. A special structure offset directive assures compatibility with the Amiga's interface conventions. A frame offset directive makes stack storage easy. Forward and backward branches, as well as many other instructions, may benefit from a sophisticated N-pass optimizer. Full listing control is standard. A user-accessible file provides the ability to customize directives and run-time messages.

Macro68 is compatible with directives used by most popular assemblers. Output file formats include executable object, linkable object, binary image, and Motorola S records. **Macro68** requires at least 1 meg of memory. Suggested retail price: US\$150

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\$30 off!**

fingerTalk — fingerspelling tutor



fingerTalk will help you communicate with hearing impaired persons, and is useful anytime silent communication is needed. This interactive program will teach fingerspelling (hand-signs for letters and numbers) to both adults and children. There are 5 different modes to help you to learn quickly. Suggested retail price: US\$35



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BANNERS

How To Design and Print Big Messages

by Patricia Zabka Kaszycki

I'm frequently asked if the Amiga and *PageStream* can create and print *big* banners? The answer is "yes" to both. Step-by-step instructions for creating and printing an "extra large banner" on "banner paper" is what this tutorial teaches.

What's banner paper? It's a special paper made without cross-perforation marks every 11-inches. It's available in different colors and because it comes on a roll that can be tractor fed on your printer, you can design to print very big and long messages.

Getting Started

If you're not familiar with Amiga and *PageStream* basics, refer to your manuals. With *PageStream* open, go to the File Menu and select New. When the New Document requester pops up, select User and type 8.5 into the left box and 72 into the right box. Then choose Single-Sided Document, and Landscape. Left mouse click on the OK button to register your choices.

Move to the View Menu and "multiple" select: Show Full Page, Show Rulers, Show Guides, and Show Column Outline. Move to the Global Menu, select Measuring System, and then choose Inches from the Measuring System requester. Left mouse click OK.

From the Layout Menu choose Snap to Guides. Move to the View Menu and choose: Show Actual Size. From the Tool Box, select Object Mode and move the Arrow Pointer to the vertical ruler and left mouse click on the 2-inch tick mark to make the first Guide line appear in the document window on the page. Then move the Arrow Pointer down the vertical ruler and left mouse click on the 7-inch tick mark to make a second Guide line appear. Use the Scroll bars on the right and the bottom to access the page quickly. Next, move the Arrow Pointer to the horizontal ruler and left mouse click on the 2.5-inch tick mark to make a third Guide line appear. Finally, move the Arrow Pointer on the horizontal ruler and left mouse click on the 70-inch tick mark to make a fourth Guide line appear.

You'll type the text line next. If it's not already selected, choose Show Actual Size from the View Menu. Move to the Tool Box and select the Text Mode. Move the I-Beam Cursor to the left side and center of the page at about the 4-inch vertical ruler and the 4-inch horizontal ruler. Left mouse click to place the Cursor there. Move to the Style Menu and select your favorite type face; if you want to follow this tutorial exactly, use "DavysRibbons." Choose 144 points for the size.

Adding Text

A special note about fonts needs to be mentioned here. Not all Fonts are the same and some can cause unusual problems when designing and printing at large point sizes. The Compugraphic fonts which

come with *PageStream* (CG Times, CG Triumvirant, and Garamond), will not display on the screen or print to the printer at any point size above 108 points. This is a Compugraphic problem, not an Amiga or a *PageStream* problem. How do you get type at point sizes which are larger than 108 points to appear on the screen and on the printed page? Use one of the *PageStream* fonts like TomHudson or Artistic, or any of the Type 1 fonts for the Amiga.

Having selected a Font for the project, the next concern is with the Character and Line Spacing options. Go to the Format Menu. Select Line/Char Spacing and in the Change Line/Character Spacing requester box select 0 for Line and 0 for Character. Then choose Auto Line Spacing and left mouse click OK. Auto Line Spacing allows you to accurately scale and resize text on the screen. Fixed Line Spacing can cause your on-screen scaling/resizing maneuvers to appear chopped-off or missing, leaving you wondering what happened to the text.

The next step concerns the message-text line. Here's a little tip. You can input text at any *PageStream* screen size, but typing and redraws are much faster—especially with large point sizes—when you use the Full Page option. If you want speed, then change the screen's view. Go to the View Menu and select Show Full Page. Your Cursor mark is still where you originally placed it, so you can start typing now. Type: "Blessings

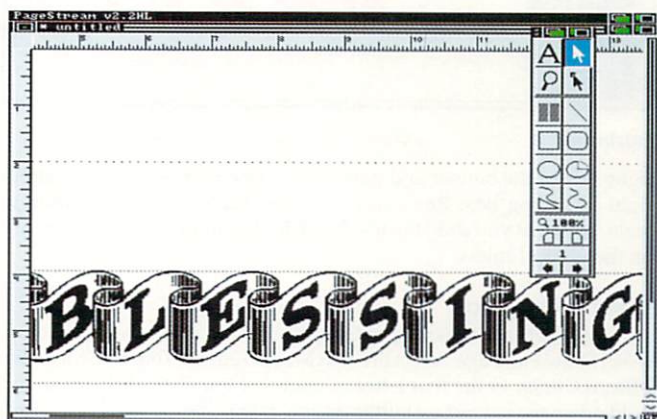


Illustration 1.

on Christmas To Last the Whole New Year Through," or whatever else you want your banner to say. (Illustration 1)

Next, select Object Mode from the Tool Box. The eight Bounding Boxes will appear around the text line that you just typed. Move the Arrow Pointer to the top right Bounding Box. Press and hold down the left mouse button and drag the Bounding Rule to the Guide line at the 2-inch vertical mark. Move the Arrow Pointer to the bottom right Bounding Box. Press and hold down the left mouse button and drag the Bounding Rule to the Guide lines on the bottom right side of the page at about the 70-inch mark on the horizontal ruler and the 7-inch mark on the vertical ruler.

From the File Menu select Save As and type in the name of your project.

Making Adjustments

For accuracy and ease to your eyes, let's get a larger screen view on the monitor. In addition to the View Menu options and moving around screens with the Scroll Bars, PageStream has a Magnify Mode. This mode permits fast and direct routing to any page positions where you intend to get a better look at text and graphics. Try it out.

From the Tool Box select Magnify Mode and move the Magnify Icon to the top left corner of the text block. Left mouse click there to get an exact position enlargement. Left mouse click a second time, or more as needed to enlarge the screen to a comfortable viewing magnification for you and your own eyes. When you're satisfied with the screen enlargement, move to the Tool Box and select the Object Mode. Then move the Arrow Pointer to the text block and click the left mouse button to bring up the eight Bounding Boxes if they're not already selected. Place the Arrow Pointer into the top left Bounding Box. Press and hold down the left mouse button to scale/resize as you drag the text block to the Guide lines at the 2.5-inch horizontal and the 2-inch vertical marks on the rulers. Place the Arrow Pointer into the bottom left Bounding Box. Press and hold down the left mouse button to scale/resize as you drag the text block to the Guide lines at the 2.5-inch horizontal and the 7-inch vertical marks on the rulers.

Use the Scroll bars to move to the right side of the banner and place the Arrow Pointer into the top right Bounding Box. Press and hold down the left mouse button to scale/resize as you drag the text block to the Guide lines at the 70-inch horizontal ruler. Now move to the bottom

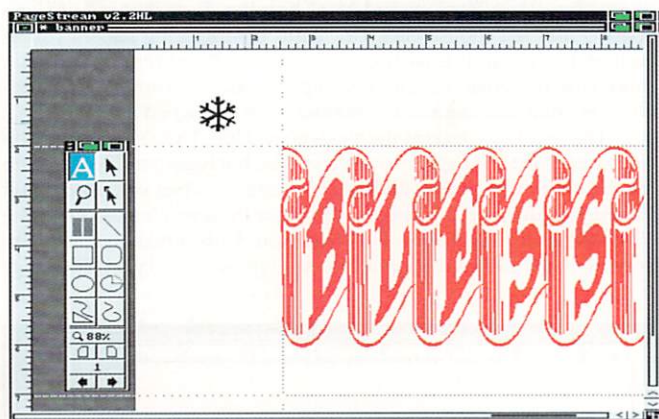


Illustration 2.

right side of the banner and place the Arrow Pointer into the bottom right Bounding Box. Press and hold down the left mouse button to scale/resize as you drag the text block to the Guide at the 7-inch mark on the vertical rulers.

Color & Graphics

Let's get back to looking at the entire banner. From the View Menu, select Show Full Page. Select the Text Mode from the Tool Box. Move the I-Beam Cursor to the first letter in your text line then click, press and hold down the left mouse button as you drag to highlight all of the text.

From the Object menu select Fill Style and choose style 9 which is for solid color and is found at the bottom of the second column of

choices. From the color window selection requester choose red. Left mouse click on the OK button to register your choices.

How about a few Christmas graphics for final touches on the banner? Getting graphics onto the page can be done in several ways: by drawing directly in PageStream or another program, from clip art, by scanning photos, and sometimes as this tutorial will demonstrate, from

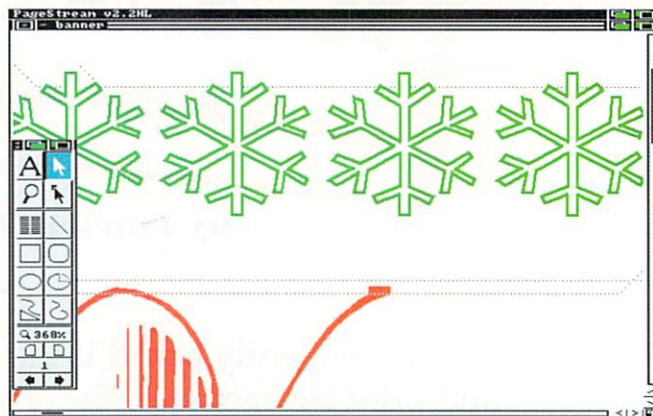


Illustration 3.

existing "graphic-intensive type" fonts. The Font called DingBat has many snow-flake like characters which are perfect for this project. Use the Font Manager to load/update the Fonts you need. The manual that came with your software will detail the steps involved.

Exact Placement

The sequencing of the next steps in this tutorial is absolute. Follow them precisely. You should be looking at a Full Page Screen. From the Tool Box select Magnify Mode. Move the Magnify Icon to the top and left side of the text block and click the left mouse button. Repeat two more times. The screen will be at about an 88% enlargement.

Select Text Mode from the Tool Box and left mouse click to place the I-Beam Cursor in the space at the 1-inch rulers on the top and to the left of the banner copy. From the Style Menu select Fonts/Points. Choose DingBat, Normal, and 72 points in the Set Font Requestor. Left mouse click OK. Type the lower case "d"—or any keystroke that will produce the character you're looking for. (Illustration 2)

Press and hold down the left mouse button as you drag to highlight the "snowflake-character." From the Object Menu, select Fill Style. In the Fill Style requester choose Style 9 and the color green. Left mouse click on the OK button.

The "snowflake-character" will now be green. Move the I-Beam Cursor back to the highlighted snowflake-character and click the left mouse button to place the cursor there, then continue to type the lower case "d" across the top of the banner until you reach the 70 pica mark on the right side.

If you want some speed while you're typing snowflake-characters then change the view to Show Full Page. Change to Object Mode. The eight Bounding Boxes will appear around the snowflake-text line. From the Style Menu select Bold. Choose Block from the requester that pops up. Go back to the Style Menu and select Outline. Choose Block from the requester that pops up. (Illustration 3)

Time for another Save to make sure you don't lose this hard work! Select replace in the requester that pops up. Continue to pay attention to the sequencing of the following steps. Select Magnify Mode and bring the enlargement up to about 88%. Then select Object Mode and move the Arrow Icon to the 1-inch tick on the horizontal ruler and left mouse click to place a new Guide line on the page. Move the Arrow Icon to the 1-inch tick on the vertical ruler and left mouse click to place another new Guide line on the page. Now move the Arrow Icon to the snowflake-text line. Press and hold down the left mouse button as you drag and move the snowflake-text line to the new Guides lines at the 1-inch vertical and the 1-inch horizontal rulers. When you're finished lining up the snowflake-text line with the Guides, release the left mouse button. The eight Bounding Boxes will appear. (Illustration 4)

Go to the Object Menu and choose Duplicate. In the Duplicate Objects requester type 1 in the Copies box, 0 in the Horizontal Offset box, and 6 in the Vertical Offset box. Left mouse click OK.

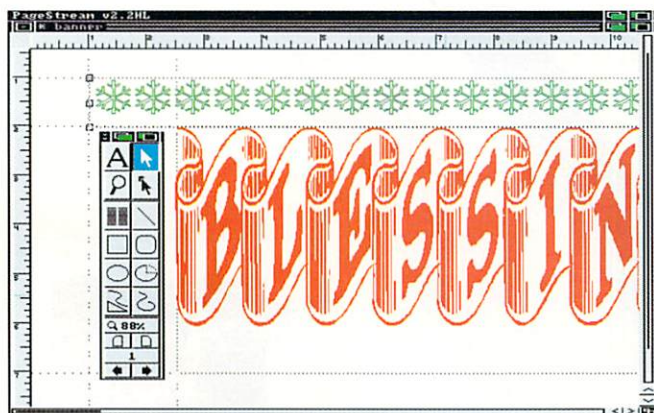


Illustration 4.

A Copy of the snowflake-characters will appear at the bottom of the banner at the 7-inch vertical ruler with the eight Bounding Boxes now around it. (Illustration 5)

Take a look around the 72-inch banner with Magnify Mode. Remember, you can reduce views by holding down the shift key while pressing the left mouse button. Move around the page and verify that both the snowflake-text line and the message-text line are correctly positioned.

When you are satisfied that all is well, execute a final Save from the File Menu. It's a good idea to save your work frequently, especially before sending documents to print.

Printing

There are a few special notes for large formats like this banner. The first consideration is Preferences. From the Workbench select Preferences and choose the printer driver and the proper maximum density setting available for your printer. Select the appropriate tractor and paper type options. Choose the color or the black and white option. If you're printing in color use a new color ribbon.

Go to the PageStream Global Menu and select Configure Printer. Load the appropriate printer driver and in the paper size box type the dimensions to match the paper you are using. For this tutorial type 8.5 in the first box and 72.0 in the second box. The landscape/horizontal options were already selected in the New Requester at the beginning of this tutorial. If you have followed the tutorial instructions exactly, PageStream will take care of alerting your printer to print the page big and 72-inches long. Make sure the banner paper is properly loaded inside your printer's tractor feed mechanism. Before sending the command to print, verify the positions and the accuracy of your banner's

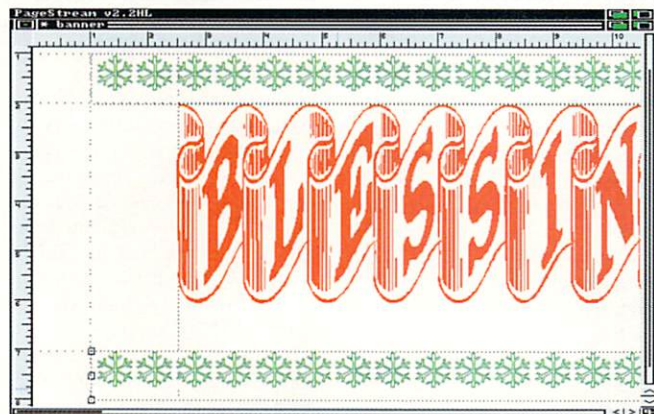


Illustration 5.

Quma Version Control System

QVCS matches the features of PC configuration management tools costing \$100's more: It tracks all the changes you make to any file, tracks who made the changes, when, and why. It supports both binary and text files so you can manage *all* the files of your project with a single tool: your source code, your sound samples, your graphics, your documentation, even your ads. Put QVCS to work on your next Amiga project. Order your copy today!

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text line and graphic elements. If you make any changes or adjustments execute another Save from the File Menu. When you send the Print Command from the File Menu in PageStream, the Print Document requester comes up. Do not exceed the capable density of your printer here. If you do PageStream will not print.

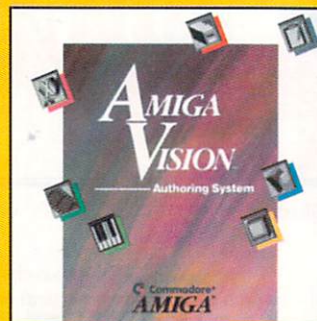
The last consideration is really a *warning*. Be prepared for a banner of this size to take a long time to print. You may have to wait several minutes before printing starts. It takes the computer some time to calculate and then dump to your printer elements from a long page like this one. After printing begins—it may suddenly stop. Nothing is wrong, and printing will resume when the computer calculates and then dumps the new data from its buffer to the printer for round two. Depending on your hardware/software configuration, your printer may stop printing several more times before the banner is completed. I printed in color on an ALPS printer with an ordinary Amiga 500 with no accelerator—printing stopped, and waited for the calculating and buffer dumping four times. From start to finish, the printing took slightly longer than two hours. A smaller size banner with less graphic information will print much faster.

Have fun with the banner project and Merry Christmas and a Successful 1993 Amiga Desktop Publishing Year!

•AC•

Please Write to:
Patricia Zabka Kaszycki
c/o Amazing Computing
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Fall River, MA 02722-2140

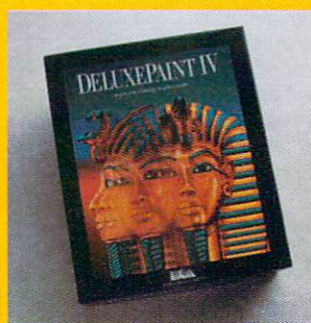
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Authoring Systems Presentation Program

AmigaVision

AmigaVision is an interactive icon-based authoring system for the AMiga. The newest version, AmigaVision Professional, builds and expands on visual programming environments of earlier versions. New features include support for CDTV, speed and memory improvements, and enhancements to the authoring environment. It also includes a freely distributable runtime module.



Animation Package Drawing Package

DeluxePaint IV

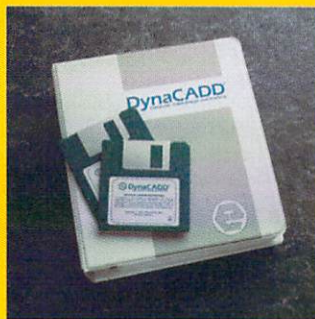
This full featured paint and animation program from Electronic Arts boasts animation control, metamorphosis, stencil mode, color mixer, and many other useful features. Deluxe Paint IV also offers the ability to paint and animate with all 4096 colors in HAM mode and a light table which allows you to see through the animation frame you are currently working on.



Business Package Superbase Professional

Forms design, application development and relational database are all included in Superbase Professional 4. The program's files support one billion records, new data types and attributes, 4,000 character text fields, logical fields, and PCX and GIF image formats. New features include improved network operations which allow up to 32,000 concurrent users to access database files; SLQ server support; additional image formats, and more display and printing options.

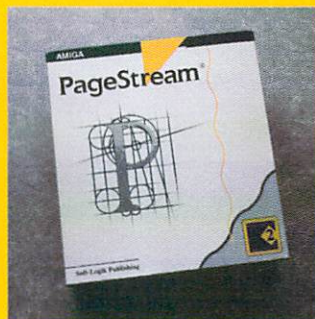
Reader's Choice Awards



CAD

DynaCADD

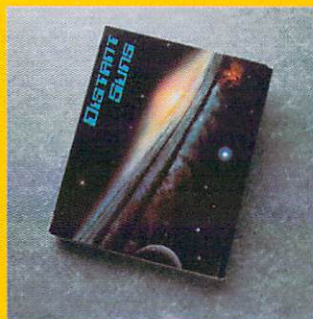
DynaCADD designs and details in 2-D and 3-D, reads and writes industry-standard DXF files, and includes export capabilities to all major Amiga rendering packages. DynaCADD's attention to ease-of-use reduces the learning curve normally associated with high-end CAD packages.



DTP

PageStream

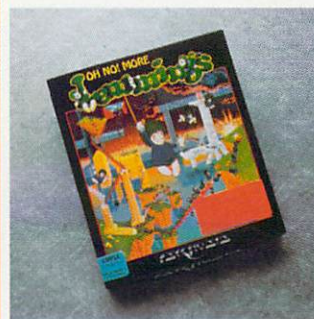
PageStream is a comprehensive desktop publishing page layout package. It features support for a variety of printers, plotter support, Type 1 extended character support, and offers a faster font/point dialogue box that will display quickly.



Education

Distant Suns

Distant Suns brings desktop astronomy and space travel to the Amiga. The basic data set contains over 2,000 deep sky objects. The program contains information on the stars and planets. It allows the user to enter his own data. Distant Suns lets you see planets, stars, comets and asteroids. It brings the universe to your Amiga.



Entertainment Game

Lemmings

Lemmings establishes a new category of game for the Amiga. Guide tiny Lemmings through many levels of obstacles and adventures. Get them on their way as fast as you can or they start to inundate you and happily proceed to their own oblivion. Each level requires you to construct increasingly difficult routes to save as many Lemmings as you can.



Programming Language

SAS/C Development System

The SAS/C Compiler Development System offers a complete programming environment with SAS/C Compiler, global optimizer, blink overlay linker, LSE screen editor, source-level debugger, comprehensive documentation, and more. The latest release is version 6.



Desktop Video

DeluxeVideo III

DeluxeVideo provides complete control over Amiga graphics, animation, and sounds. With its visually-oriented interface, DeluxeVideo III adds full integration of sound effects, music, and MIDI to make complete audio-visual presentations. It can be used to create interactive demos, animated cartoons, or other types of video presentations using the full range of Amiga graphics, animation, and sound. These videos can be recorded to video tape or played back through the Amiga.



Emulators

Commodore A2286 Bridgeboard

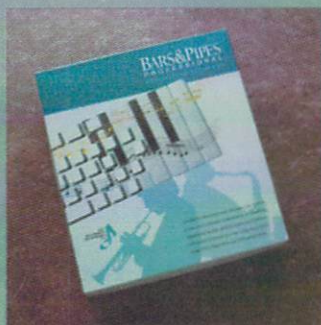
The A2286 gives an Amiga system MS-DOS compatibility by allowing PC application software to run within a window under AmigaDOS. The board can be used with all Amiga 2000, 3000, and 4000 series computers.



Graphics Cards

DCTV

DCTV is a video display and digitizing system. It creates a full color composite display with all the color and resolution of television. Captures a video frame in 10 seconds from any color video camera. Displays and captures full color 24-bit hi-res images. Convert DCTV images to or from any IFF format. Works with all popular 3D programs. Animate in full color composite video.



Music

Bars & Pipes Professional

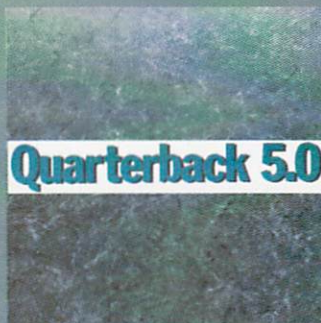
Bars & Pipes Professional's state of the art features include an unlimited number of tracks and notes, merge and overwrite recording, automated mixing, notation editing, and printout of composed score along with hundreds of other features. Bars and Pipes Professional is a truly professional package for music creation and manipulation on the Amiga.



Music

Deluxe Music Construction Set

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Utilities

Quarterback 5.0

Quarterback is a professional backup system for the Amiga. It features streaming tape backup support, compression, special backup and restore options, and optional password protection and encryption.



Word Processor

ProWrite

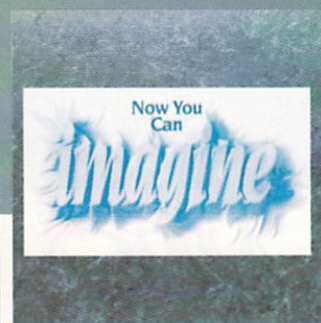
ProWrite is a professional word processing package for the Amiga. The latest release features print preview, automatic text flow around graphics, vertical rulers, password protection, picture naming and searching and more. It also has hotlinks support so you can interchange you documents with other applications for intergrated word processing and DTP.



Image Processing

Art Department Professional

ADPro offers offers a wide variety of image processing tools. Load and save images in a multitude of different file formats—Amiga, MS-DOS, MAC, and standards such as IFF, JPEG, and TIFF. The universal loader automatically detects and decodes most image file formats. There is also support for 8-bit HAM and a roll operator for faster creation of video transitions such as pushes, slides, and reveals and a broadcast limit operator to identify and correct colors which can cause playback artifacts based upon specific NTSC, PAL, or user-definable standards.



3-D

Imagine

Imagine is the next generation in rendering animation systems. In many areas, Imagine is capable of functions that are not available on larger platforms. With the use of 24-bit rendering techniques, Amiga owners can compete in the world of professional animations at a lower cost.

Video Hardware

SuperGen

SuperGen is a genlock and overlay device. It features independant dissolve controls, two overlaid outputs, switchable notch filter, accurate lock to VCR output and more. Also featured is and RGB decoder for true Amiga colors.



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Best Text Editor
PsygnusEd Professional

The Amazing Computing 1992 Reader's Choice Awards winners were determined from information supplied by our readers on the Reader's Choice Awards ballot published in our May 1992 issue. We have presented the winners from all the major categories. We did combine and/or eliminate some of the categories from the original ballot due to inconclusive voting in those categories. We would like to express our sincere gratitude to all the readers who participated in this event.

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ARexx

This month we have something for math teachers, something tricky for the probability experts, and something for game show enthusiasts, all presented using the incredible user friendliness of *Scala MultiMedia 2.0* which supports ARexx scripts. The correct way to implement "ARexx Support" is sadly lacking in many a program which boasts of it, but happily, the Scala folks aren't in that group. They are among the true believers that a powerful and complete ARexx command set is essential. Command sets provide a way to control a

program from within using a macro or from without using ARexx's interprocess control to send the program its own commands through the ARexx Command Interface. ARexx maintains software "addresses" which are exactly similar to mailbox addresses. You issue a program an ADDRESS instruction specifying the "current host address" of a "host application" (a program with ARexx Support). Any string that ARexx tries to interpret and cannot make sense of, it passes on to the "current host address," where it will make sense—if you've programmed it

correctly—because it is a string comprising one of the host application program's script commands.

Macros vs. Interprocess Control

Briefly, a macro is a set of commands peculiar to some program which the program can send to itself while running and accomplish repetitive or complex tasks automatically. Some sort of user-settable menus or consoles or script windows will provide the user interface, or a "macro" may "record keystrokes" and "remember" a sequence to be repeated at will. True interprocess control is the ability of a program to control another program remotely by starting it up, processing data in it, and receiving information back from it, all without ever looking at the program's user interface screen. Unique among languages, ARexx does this and more. ARexx programs are just ASCII text scripts made in an editor and processed by the interpreter, called "rexmast." Rexmast is started like any other program and runs in the background until it encounters an ARexx script to interpret. The best "ARexx Support" is a program which provides both an ARexx Port (an "address") and a rich command set in the form of ASCII text, rather than merely the ability to remember key presses. In superior implementations, this command set is usable within the program both with and without reference to ARexx, except in a few cases where the logical power of ARexx is essential. Scala is an example of such an implementation, and we will explore the way ARexx and Scala's native commands interact and complement one another.

Scala Generates Scripts

Scala is meant to provide an easy way to make a presentation. It does this with a first-rate user interface where you just point and click on things to choose a sound or a background or a font, for instance. As easy and elegant as the

Your Selection:

Door No. 1
Door No. 2
Door No. 3

Stay with !D? Choose!

No. 1 Open
Door No. 2
Door No. 3

Top: The first interactive screen. Three Door texts are buttons with GOTO commands attached. Bottom: This screen highlights your choice in color.

Scala and ARexx: Learning Probability by Making a Game Show

by Merrill Callaway

interface is, all it ultimately does is generate an ASCII script file and store it in the Scala Script directory, similar to the way you store ARexx programs in the Rexxc directory.

Interpreting Scripts

With the blistering speed of the new processors, it is increasingly irrelevant that an interpreted script "runs slower" than a binary or a compiled program, as the difference in speed isn't so big compared with the overall speed of the system. Interpreted scripts have this advantage: They are easy to read and understand. Any computer language or macro language that is script-based is a prime candidate to "mix and match" script commands with ARexx. In past columns, we looked at ARexx and PostScript, a similar situation to mixing ARexx with Scala's script language, called "Lingo." Scala both generates and interprets its own scripts without reference to ARexx, but if you have ARexx and use it too, the power of Scala goes upscale.

The Game Show Problem

Here's a knotty little problem which you may read a proof of in my book, *The ARexx Cookbook*; I'll not give it here because of space con-

coupled with the interactive interface of Scala. Anyone with Scala may duplicate this experiment by merely saving the scripts listed here in the Scala scripts directory and in the rexx: directory, and playing the game.

How to Model the Situation

The way to model unpredictability is with randomness. Scala has the ability to choose a number at random; that is the first thing we do after initializing all the "counters" we'll need. Variables can be set in Scala so set your initial counts of t (number of tries); s (number of times we switch); p (number of times we stand "pat"); w (wins); and L (losses) all to zero and count up from there. After initialization, each block of a Scala script is an "event" block with an "end," usually corresponding to a page of the presentation. We want an initial screen to set up all the variables followed by a "Choose a Door" screen to loop back to after each try. Listing 1 is in Lingo, but notice how easy and intuitive it is. PICTURE loads a background, for instance. We will stick to the way we use ARexx to interact and leave it to the reader to explore most of Lingo in the excellent Scala manual. We make the Text for "Door 1," "Door 2," and "Door 3," into Buttons using Scala. We tell the program—in its friendly interface—to GOTO the event "Showchoice D" according to

A macro is a set of commands peculiar to some program which the program can send to itself while running and accomplish repetitive or complex tasks automatically.

straints. It comes originally from an "Ask Marilyn" column in the *Sunday Parade Magazine*, and it generated a storm of controversy, as the solution is not easy to see. It goes like this: A man is a contestant on a game show in which there are three doors from which to choose. Behind one of them is a new sports car. The show's host knows which door, but isn't saying. The game show host asks the contestant to choose one of the doors, and the contestant does. Now the host opens one of the remaining two doors, and it's empty. The host asks the contestant, "Do you want to stay with your original choice, or do you want to switch to the remaining door?" What should the contestant do? That is, what is the probability of a win if he switches vs. his chances if he stays?

The Controversy and the Experiment to Remove It

Marilyn's answer that the contestant has a two-thirds better chance of winning by switching than by staying—only a one-third chance—aroused so much controversy and mail that she suggested that teachers in schools conduct mass experiments using three cups and a coin under one of them, letting the students choose, trying switching versus staying. She suggested that they keep score and see empirically whether switching was better in the long run. The experiment she suggested is an ideal way to take a look at the power of ARexx

whether D = 1, 2, or 3. Once there, we will call an ARexx routine to take care of the compound logic that Lingo can't handle.

ARexx Takes Care of the Logic

We branch the Scala Lingo routine at each "Showchoice D" event. We also tell the program to "wait" for the ARexx routine to finish before going on. We need ARexx to tell Lingo the number of the door that the game show host opens. Obviously, the host cannot open the door with the car; and to make the game unpredictable and model the host's being cagey, we randomize the door he opens if he indeed has a choice. Only if the contestant guesses correctly the first time, does the host have a choice in which door to open and tempt the contestant to switch. In every other case, the host may open only one door. Hint: This is the key to the formal proof! Listing 2 shows "ScalaGameShow.rexx" which sets the variable k through Scala's ARexx Port named "rexx_ScalaMM". K represents the number of the door that the host opens. We use some Scala Lingo commands with ARexx to GETVAR (get a variable value from Scala) and we "SETVAR k" at the end. After obtaining the number of the door behind which the car sits, n, we set up an array called "Door." and initialize it to zero and then set Door.n to one, for testing with some IF tests later on, one being "true" and zero being "false" in such tests. The IF blocks take care of all possibilities. Note that the

contestant picked Door j which is the value of Door D in the Lingo routine. I lifted most of this routine from a similar program in *The ARExx Cookbook*. Variables in separate routines are quite independent of each other and needn't share the same name. This illustrates how easy it is to "bash code" once you have a library of ARExx routines handy; simply transform a program into an external function!

ARExx Randomizers

ARExx has two powerful randomizers, RANDOM() and RANDU(). When your choice is a random number in a sequence of integers, use RANDOM(). When you need a random number between zero and one, use RANDU(). To initialize what is actually a pseudo-random number generator internally, ARExx lets you put in a seed to initialize that function. We nest another function, TIME('S') which returns the current system time in seconds, which should provide a different seed every time! You don't need to use a seed, but it helps to make things unpredictable. The other thing of interest is the way we get number one or three at random by using RANDU(). We test the number and if it's greater than 0.5 then we use k=3 or ELSE (h<=0.5) k=1. This is a one way to model either/or choices. At the end of the routine, we SETVAR k in Scala. The labels SYNTAX: ERROR: etc. are called error traps and the program branches here to halt the show if something goes wrong. The SIGNAL ON ERROR etc. instructions at first tell the program to branch here on these types of errors. Now this ARExx program returns control to the Lingo script we just left and k is set to a door for the host to open.

Back in Lingo

Since a Lingo event cannot act upon a variable that the event itself computed via an ARExx program, a condition I hope this changes, we need another window to branch according to the value of k; we name it "Evaluate." All "Evaluate" does is branch to, for instance, the event "Host Opens 1" in case k=1.

Final Choice!

In "Host Opens 1," we have set up the appropriate buttons for the contestant to stay or switch, and a message to choose. The door the host opens no longer is a button, since that isn't a choice anymore. In this event, we accept the user input and test to see if the door the contestant picks is the winner or the loser. Scala can accept user input and branch according to interaction with the buttons. The Lingo program goes to events "Win!" or "Lose!" according to whether the contestant's final choice (DF) matches where the car is (Door N). We use a Lingo variable DF to mean the Door Final choice of the contestant. Lingo uses an inline IF statement: IF condition GOTO true GOTO false. The first GOTO is for condition true and the last is for condition false. Lingo is limited here, but as we are seeing, you may use ARExx to fill in the logical gaps.

Win or Lose?

Once at the Win or Lose event, we need another ARExx program called "ScalaCumwin.rexx" to do some compound logic to count up the variables for our final display screen in Lingo. Basically, the program gets all relevant variables and uses the four IF instructions to increment P for staying "Pat" or S for "Switching." We economize here by realizing that if a person loses by staying pat, then they would have won by switching, so we compute the "theoretical wins" as well as the actual wins. After setting the variables we return to Lingo.

Theoretical Wins

We use the powerful feature of Scala to display the values for variables on a screen for an event by writing "ln" to display the value

of n, !P for displaying P, etc.; we can even use arithmetic: !PP=P/t to display the probability of staying "pat." The final screen displays all the cumulative results and allows the user to play another game or to exit. If the user selects the button "continue," then the Lingo script branches to the "Choose a Door" event. Powerful interactive presentations may be composed in Scala by using the ARExx command interface and the Lingo script commands, coupled with the considerable power of ARExx itself.

The Scala Script

Note: In general, the Scala scripts start each line with the CAPITALIZED words, and no lines start with numbers or lower case words. You will want to change the code every time Scala: appears, or else in a shell >assign scala: YourScala:directory where the latter is the actual path to your scala program. The ARExx programs go in the directory ARExx: inside the Scala: directory.

The Scripts

Listing One

```
V2.0

MOUSE on
FKEYS on
NUMKEYS off
JOYSTICK off
POINTER off
INTERACTIVE on

EVENT Initialize
SET t 0
SET s 0
SET p 0
SET w 0
SET L 0
PICTURE Scala:Scala/Backgrounds/Tech006
WIPE cut speed 1
TABS 132 232 332 432 532 300 350 400 450 500
MARGINS on 64 639
GRID off 6 6
WORDWRAP on
FONT FuturaX.font 47
COLOR 1 7 7 7 7 0 0
ATTRIBUTES remap
STYLE 0 3 4 3 6 2 1 39 5 1 13 0 5 0
TEXTWIPE dump speed 1
TEXT 62 54 ""
END

EVENT "Choose a Door:"
SET n RANDOM(1,3,TIME('S'))
PICTURE Scala:Scala/Backgrounds/Tech006
WIPE wipe east speed 10
TABS 148 248 348 448 548 300 350 400 450 500
MARGINS on 80 655
GRID off 6 6
WORDWRAP on
FONT FuturaX.font 47
COLOR 2 0 0 0 0 0 0
ATTRIBUTES bold shadow remap
STYLE 0 3 4 3 6 2 1 39 5 1 13 0 5 0
TEXTWIPE dump speed 1
TEXT 82 47 "Choose a Door:"
FONT FuturaX.font 94
ATTRIBUTES bold shadow remap left
STYLE 0 3 4 3 6 2 1 78 10 2 13 0 5 0
TEXT 80 115 "Door No. 1"
TEXT 80 211 "Door No. 2"
TEXT 80 307 "Door No. 3"
MARK replace 0 1 1 3 4 5 6 7 8 9 1 11 12 13 14 15
SELECT replace 0 1 15 3 4 5 6 7 8 9 3 11 12 13 14 15
BUTTON position 73 108 575 205 SET D 1 GOTO ShowChoice.1
```



```

MARK replace 0 1 1 3 4 5 6 7 8 9 10 11 1 13 14 15
SELECT replace 0 1 15 3 4 5 6 7 8 9 10 11 3 13 14 15
BUTTON position 72 213 580 299 SET D 2 GOTO ShowChoice.2
MARK replace 0 1 1 3 4 5 6 7 8 9 10 11 12 13 14 1
SELECT replace 0 1 15 3 4 5 6 7 8 9 10 11 12 13 14 3
BUTTON position 71 306 580 398 SET D 3 GOTO ShowChoice.3
PAUSE -1
END

```

```

EVENT ShowChoice.1
EXECUTE Scala:scala:arexx/scalagameshow.rexx arexx wait
PICTURE Scala:Scala/Backgrounds/Tech006
WIPE cut speed 1
TABS 148 248 348 448 548 300 350 400 450 500
MARGINS on 80 655
GRID off 6 6
WORDWRAP on
FONT FuturaX.font 47
COLOR 15 0 0 0 0 0 0
ATTRIBUTES bold shadow remap
STYLE 0 3 4 3 6 2 1 39 5 1 13 0 5 0
TEXTWIPE dump speed 1
TEXT 82 47 "Your Selection:"
FONT FuturaX.font 94
ATTRIBUTES bold shadow remap left
STYLE 0 3 4 3 6 2 1 78 10 2 13 0 5 0
TEXT 80 115 "Door No. 1"
COLOR 2 0 0 0 0 0 0
TEXT 80 211 "Door No. 2"
TEXT 80 307 "Door No. 3"
GOTO Evaluate
END

```

```

EVENT ShowChoice.2
EXECUTE Scala:scala:arexx/scalagameshow.rexx arexx wait
PICTURE Scala:Scala/Backgrounds/Tech006
WIPE cut speed 1
TABS 148 248 348 448 548 300 350 400 450 500
MARGINS on 80 655
GRID off 6 6
WORDWRAP on
FONT FuturaX.font 47
COLOR 15 0 0 0 0 0 0
ATTRIBUTES bold shadow remap
STYLE 0 3 4 3 6 2 1 39 5 1 13 0 5 0
TEXTWIPE dump speed 1
TEXT 82 47 "Your Selection:"
FONT FuturaX.font 94
COLOR 2 0 0 0 0 0 0
ATTRIBUTES bold shadow remap left
STYLE 0 3 4 3 6 2 1 78 10 2 13 0 5 0
TEXT 80 115 "Door No. 1"
COLOR 15 0 0 0 0 0 0
TEXT 80 211 "Door No. 2"
COLOR 2 0 0 0 0 0 0
TEXT 80 307 "Door No. 3"
GOTO Evaluate
END

```

```

EVENT ShowChoice.3
EXECUTE Scala:scala:arexx/scalagameshow.rexx arexx wait
PICTURE Scala:Scala/Backgrounds/Tech006
WIPE cut speed 1
TABS 148 248 348 448 548 300 350 400 450 500
MARGINS on 80 655
GRID off 6 6
WORDWRAP on
FONT FuturaX.font 47
COLOR 15 0 0 0 0 0 0
ATTRIBUTES bold shadow remap
STYLE 0 3 4 3 6 2 1 39 5 1 13 0 5 0
TEXTWIPE dump speed 1
TEXT 82 47 "Your Selection:"
FONT FuturaX.font 94
COLOR 2 0 0 0 0 0 0
ATTRIBUTES bold shadow remap left
STYLE 0 3 4 3 6 2 1 78 10 2 13 0 5 0
TEXT 80 115 "Door No. 1"
TEXT 80 211 "Door No. 2"
COLOR 15 0 0 0 0 0 0
TEXT 80 307 "Door No. 3"
GOTO Evaluate
END

```

```

EVENT Evaluate
IF k=1 GOTO "Host Opens 1"

```

```

IF k=2 GOTO "Host Opens 2"
IF k=3 GOTO "Host Opens 3"
PICTURE Scala:Scala/Backgrounds/Tech006
WIPE wipe east speed 10
TABS 148 248 348 448 548 300 350 400 450 500
MARGINS on 80 655
GRID off 6 6
WORDWRAP on
FONT FuturaX.font 94
COLOR 14 0 0 0 0 0 0
ATTRIBUTES shadow remap
STYLE 0 3 4 3 6 2 1 78 10 2 13 0 5 0
TEXTWIPE dump speed 1
TEXT 49 178 "Calculating..."
END

```

```

EVENT "Host Opens 1"
PICTURE Scala:Scala/Backgrounds/Tech006
WIPE wipe east speed 10
TABS 148 248 348 448 548 300 350 400 450 500
MARGINS on 80 655
GRID off 6 6
WORDWRAP on
FONT FuturaX.font 47
COLOR 2 0 0 0 0 0 0
ATTRIBUTES bold shadow remap
STYLE 0 3 4 3 6 2 1 39 5 1 13 0 5 0
TEXTWIPE dump speed 1
TEXT 82 47 "Stay with !D? Choose!"
FONT FuturaX.font 94
COLOR 5 0 0 0 0 0 0
ATTRIBUTES bold shadow remap left
STYLE 0 3 4 3 6 2 1 78 10 2 13 0 5 0
TEXT 80 115 "No. 1 Open"
COLOR 2 0 0 0 0 0 0
TEXT 80 211 "Door No. 2"
TEXT 80 307 "Door No. 3"
FONT FuturaX.font 47
COLOR 1 0 0 0 0 0 0
ATTRIBUTES bold shadow remap
STYLE 0 3 4 3 6 2 1 39 5 1 13 0 5 0
TEXT 593 51 ""
MARK replace 0 1 1 3 4 5 6 7 8 9 10 11 12 13 14 15
SELECT replace 0 1 15 3 4 5 6 7 8 9 10 11 3 13 14 15
BUTTON position 72 213 580 299 SET DF 2 IF DF=n GOTO Win! GOTO Lose!
MARK replace 0 1 1 3 4 5 6 7 8 9 10 11 12 13 14 1
SELECT replace 0 1 15 3 4 5 6 7 8 9 10 11 12 13 14 3
BUTTON position 71 306 580 398 SET DF 3 IF DF=n GOTO Win! GOTO Lose!
PAUSE -1
EXIT
END

```

```

EVENT "Host Opens 2"
PICTURE Scala:Scala/Backgrounds/Tech006
WIPE wipe east speed 10
TABS 148 248 348 448 548 300 350 400 450 500
MARGINS on 80 655
GRID off 6 6
WORDWRAP on
FONT FuturaX.font 47
COLOR 2 0 0 0 0 0 0
ATTRIBUTES bold shadow remap
STYLE 0 3 4 3 6 2 1 39 5 1 13 0 5 0
TEXTWIPE dump speed 1
TEXT 82 47 "Stay with !D? Choose!"
FONT FuturaX.font 94
ATTRIBUTES bold shadow remap left
STYLE 0 3 4 3 6 2 1 78 10 2 13 0 5 0
TEXT 80 115 "Door No. 1"
COLOR 5 0 0 0 0 0 0
TEXT 80 211 "No. 2 Open"
COLOR 2 0 0 0 0 0 0
TEXT 80 307 "Door No. 3"
FONT FuturaX.font 47
COLOR 1 0 0 0 0 0 0
ATTRIBUTES bold shadow remap
STYLE 0 3 4 3 6 2 1 39 5 1 13 0 5 0
TEXT 593 51 ""
MARK replace 0 1 1 3 4 5 6 7 8 9 10 11 12 13 14 15
SELECT replace 0 1 15 3 4 5 6 7 8 9 10 11 12 13 14 15
BUTTON position 71 116 579 202 SET DF 1 IF DF=n GOTO Win! GOTO Lose!
SELECT replace 0 1 15 3 4 5 6 7 8 9 10 11 12 13 14 3
BUTTON position 72 307 581 399 SET DF 3 IF DF=n GOTO Win! GOTO

```



```

Lose!
PAUSE -1
EXIT
END

EVENT "Host Opens 3"
PICTURE Scala:Scala/Backgrounds/Tech006
WIPE wipe east speed 10
TABS 148 248 348 448 548 300 350 400 450 500
MARGINS on 80 655
GRID off 6 6
WORDWRAP on
FONT FuturaX.font 47
COLOR 2 0 0 0 0 0 0
ATTRIBUTES bold shadow remap
STYLE 0 3 4 3 6 2 1 39 5 1 13 0 5 0
TEXTWIPE dump speed 1
TEXT 82 47 "Stay with !D? Choose!"
FONT FuturaX.font 94
ATTRIBUTES bold shadow remap left
STYLE 0 3 4 3 6 2 1 78 10 2 13 0 5 0
TEXT 80 115 "Door No. 1"
TEXT 80 211 "Door No. 2"
COLOR 5 0 0 0 0 0 0
TEXT 80 307 "No. 3 Open"
FONT FuturaX.font 47
COLOR 1 0 0 0 0 0 0
ATTRIBUTES bold shadow remap
STYLE 0 3 4 3 6 2 1 39 5 1 13 0 5 0
TEXT 593 51 ""
MARK replace 0 1 1 3 4 5 6 7 8 9 1 11 12 13 14 15
SELECT replace 0 1 15 3 4 5 6 7 8 9 10 11 12 13 14 15
BUTTON position 71 116 579 202 SET DF 1 IF DF=n GOTO Win! GOTO
Lose!
MARK replace 0 1 1 3 4 5 6 7 8 9 10 11 1 13 14 1
SELECT replace 0 1 15 3 4 5 6 7 8 9 10 11 2 13 14 3
BUTTON position 72 209 581 301\
SET DF 2 IF DF=n GOTO Win! GOTO Lose!
PAUSE -1
EXIT
END

EVENT Win!
EXECUTE Scala:scala/arexx/ScalaCumwins.rexx arexx wait
SET W W+1
PICTURE Scala:Scala/Backgrounds/Tech006
WIPE wipe east speed 10
TABS 148 248 348 448 548 300 350 400 450 500
MARGINS on 80 655
GRID off 6 6
WORDWRAP on
FONT FuturaX.font 94
COLOR 1 0 0 0 0 0 0
ATTRIBUTES bold shadow remap
STYLE 0 3 4 3 6 2 1 78 10 2 13 0 5 0
TEXTWIPE dump speed 1
TEXT 71 53 "IDF Wins!"
TEXT 71 149 "The Car is"
TEXT 71 245 "behind"
TEXT 71 341 "Door in"
PAUSE 2
GOTO "Theoretical wins"
END

EVENT Lose!
EXECUTE Scala:scala/arexx/ScalaCumwins.rexx arexx wait
SET L L+1
PICTURE Scala:Scala/Backgrounds/Tech006
WIPE wipe east speed 10
TABS 148 248 348 448 548 300 350 400 450 500
MARGINS on 80 655
GRID off 6 6
WORDWRAP on
FONT FuturaX.font 94
COLOR 12 0 0 0 0 0 0
ATTRIBUTES bold shadow remap
STYLE 0 3 4 3 6 2 1 78 10 2 13 0 5 0
TEXTWIPE dump speed 1
TEXT 82 49 "IDF Loses!"
COLOR 1 0 0 0 0 0 0
TEXT 82 145 "The Car was"
TEXT 82 241 "behind"
TEXT 82 337 "door in"
PAUSE 2
GOTO "Theoretical wins"
END

EVENT "Theoretical wins"
SET PS S/t
SET PP 1-PS
PICTURE Scala:Scala/Backgrounds/Tech006
WIPE wipe east speed 10
TABS 148 248 348 448 548 300 350 400 450 500

```

```

MARGINS on 80 655
GRID off 6 6
WORDWRAP on
FONT FuturaX.font 47
COLOR 2 0 0 0 0 0 0
ATTRIBUTES shadow remap left
STYLE 0 3 4 3 6 2 1 39 5 1 13 0 5 0
TEXTWIPE dump speed 1
TEXT 80 29 "Wins"
TEXT 80 71 "Out of !t trials:"
COLOR 1 0 0 0 0 0 0
TEXT 80 205 ""
COLOR 14 0 0 0 0 0 0
TEXT 80 194 "Staying: !p"
TEXT 80 247 "Probability= !pp"
COLOR 15 0 0 0 0 0 0
TEXT 80 315 "Switching: !s"
TEXT 80 371 "Probability= !ps"
FONT FuturaX.font 24
COLOR 10 0 0 0 0 0 0
STYLE 0 3 4 3 6 2 1 20 3 1 13 0 5 0
TEXT 80 126 "Actual wins: !W"
ATTRIBUTES shadow remap
TEXT 324 126 "Actual Losses: !L"
COLOR 2 0 0 0 0 0 0
ATTRIBUTES shadow remap left
TEXT 80 160 "Theoretical wins by..."
COLOR 2 9 0 0 0 0 0
ATTRIBUTES shadow remap
TEXT 83 423 "EXIT"
TEXT 523 424 "CONTINUE"
MARK replace 0 1 9 3 4 5 6 7 8 9 10 11 12 13 14 15
SELECT replace 0 1 13 3 4 5 6 7 8 9 10 11 12 13 14 15
BUTTON position 75 416 143 451 EXIT
BUTTON position 511 411 660 455 GOTO "Choose a Door:"
PAUSE -1
GOTO "Choose a Door:"
END

```

Listing Two

```

/* ScalaGameShow.rexx */
/* Called from Scala script Choosedoor.script */

OPTIONS RESULTS
SIGNAL ON SYNTAX
SIGNAL ON ERROR
SIGNAL ON HALT

ADDRESS 'rexx_ScalaMM'

/* ARExx calculations */
/* Get the Scala variables */

'GETVAR n'
n=RESULT
'GETVAR D'
j=RESULT

door.=0 /* initialize array to 0 */
/*
door.n=1 /* flag it as a win */
IF door.1=1 THEN DO /* In case car is behind door 1 */
  IF j=1 THEN k=RANDOM(2,3,TIME('S'))
  /* Host opens random loser door */
  IF j=2 THEN k=3 /* Host must open door 3 */
  IF j=3 THEN k=2 /* Host must open door 2 */
END
IF door.2=1 THEN DO
  IF j=2 THEN DO
    h=RANDU(TIME('S')) /* How to pick either 1 or 3 */
    IF h>0.5 THEN k=3 /* at random, based upon a */
    ELSE k=1 /* random fraction h */
  END
  IF j=1 THEN k=3
  IF j=3 THEN k=1
END
IF door.3=1 THEN DO
  IF j=3 THEN k= RANDOM(1,2,TIME('S')) /* Similar to first block IF */
  IF j=2 THEN k=1
  IF j=1 THEN k=2
END

'SETVAR k' k

EXIT 0

SYNTAX:
ERROR:

```


Wins Out of 11 trials:

Actual wins: 1W Actual losses: 1L
Theoretical wins by...

Staying: 1p
Probability: 1pp

Switching: 1s
Probability: 1ps

EXIT

CONTINUE

The screen where scores are kept. Note that variables values are substituted for '1P' etc.

```
HALT:
ADDRESS 'rexx_ScalaMM'
'SHOW OFF'
EXIT 10
```

```
SIGNAL ON HALT

ADDRESS 'rexx_ScalaMM'
```

```
/* ARExx calculations */
/* Get the Scala variables */
```

```
'GETVAR D'
D=RESULT
'GETVAR DF'
DF=RESULT
'GETVAR P'
P=RESULT
'GETVAR S'
S=RESULT
'GETVAR n'
n=RESULT
'GETVAR t'
t=RESULT
t=t+1
```

```
/* win */
/*stay*/ IF (D=DF)&(DF=n) THEN P=P+1
/*switch*/ IF (D=DF)&(DF=n) THEN S=S+1
```

```
/* lose */
/*stay*/ IF (D=DF)&(DF=n) THEN S=S+1
/*switch*/ IF (D=DF)&(DF=n) THEN P=P+1
```

```
'SETVAR P' P
'SETVAR S' S
'SETVAR t' t
EXIT 0
```

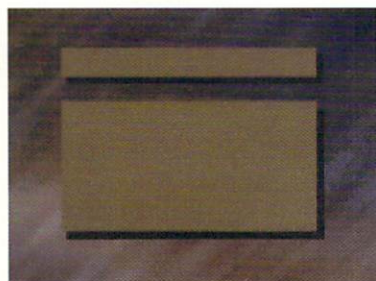
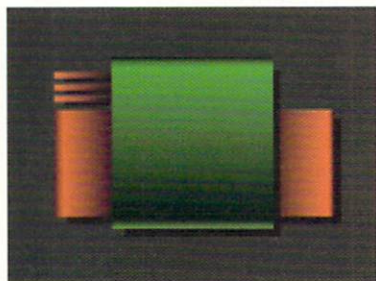
Listing Three

```
/* ScalaCumWins.rexx calculate cumulative wins for Scala */
/* script ChooseDoor.script */
```

```
OPTIONS RESULTS
SIGNAL ON SYNTAX
SIGNAL ON ERROR
```

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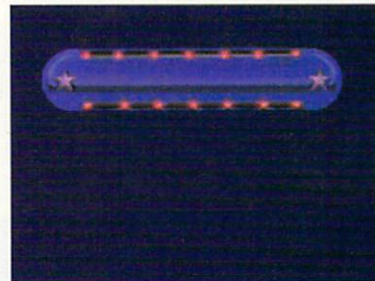
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OpalVision

OpalVision from Centaur Development is the newest tool for the 24-bit graphics artist. The package consists of a 24-bit graphics card which fits into the video slot of an A2000 or 3000 and the program software. The software is made up of three different programs, *OpalPaint*, the 24-bit paint and manipulation program, *Opal Presents*, a slide-show manager, and *Opal HotKey*. *Opal Presents* is designed to control the display of 24-bit images in film-strip fashion. *Opal HotKey* is *OpalVision*'s special support for the Amiga function keys. It allows the display of *OpalVision* and Amiga graphics simultaneously.

OpalPaint

The *OpalPaint* program makes it easy to create your own 24-bit images, import scanned or rendered images, and grab full frames or portions of an image when coupled with the *OpalVision Frame Grabber & Genlock* module, sold separately. *OpalPaint* provides the standard drawing tools, such as box, polygon, line, and ellipse and a wide variety of brush options.

The image manipulation options in *OpalPaint* are extensive. The load image

option automatically senses the format of the file being loaded and uses the necessary loader routines to bring the image into *OpalPaint*. *OpalVision* is capable of recognizing IFF, HAM, EHB (extra half bright), IFF-24, JPEG, 256 greyscale, and its own file format, OV_FAST. You are given the option of using the image resolution or the display resolution when the file is opened. The save file options are IFF-24, JPEG, and the *OpalPaint* format, OV_FAST.

You can convert standard IFF images to IFF-24 images by importing them into *OpalPaint*, enhancing their features, and then saving them as IFF-24 files. The drawing modes include functions for adjusting the contrast, brilliance or brightness, balance, hue, tint, or highlighting all or part of the image. You may also add or subtract color values, smooth or distort either part of or the entire image, or change the image into a negative of itself.

Graphic functions are performed with the use of the drawing tools. For example, if you wished to add the mosaic effect to a portion of your image, you would select the mosaic effect from the Modes menu and

return to the image. Using one of the drawing tools, you go to the area of the image where you wish to apply the effect and draw. The Amiga artist has complete control of each effect.

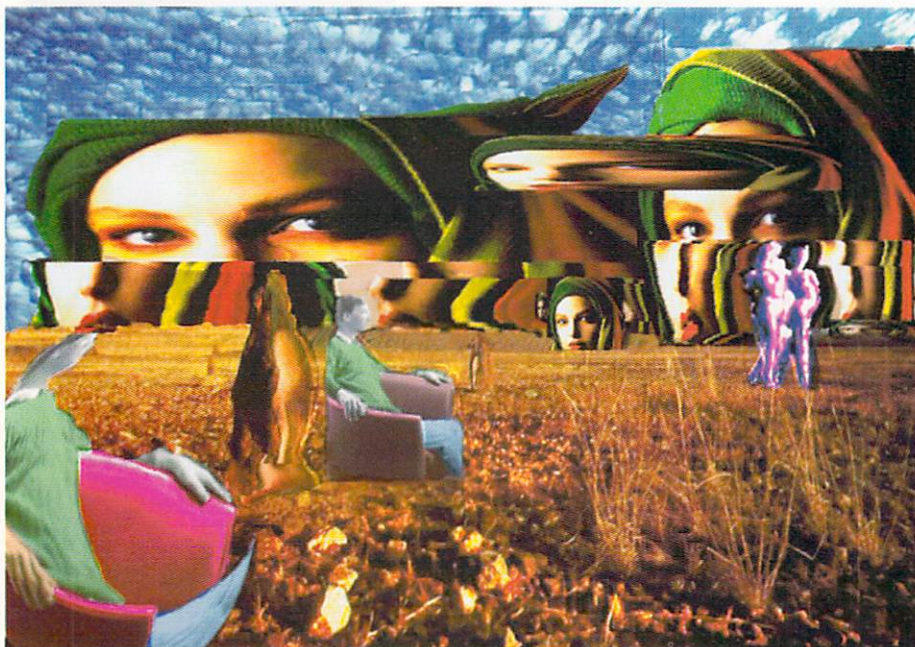
The arrow keys are used to move about the screen. You can use the shift and Alt keys with the arrow keys to make larger jumps around the screen and the image can be centered at any time simply by pressing the "n" key. Also, you can perform operations on only the part of the image that is displayed on the screen. It is not possible to follow the image off-screen and continue the operation.

Drawing Tools

As mentioned, *OpalPaint*'s tools are similar to those which have become standard to most Amiga paint programs. All the image manipulation tools are available while in *OpalPaint*. You switch manipulation tools by switching modes from the modes menu. Create a picture in paint mode then change it with any of the other supplied modes. Palettes can be customized through the palette requester or you can choose from several predefined palettes. As with other paint programs, *OpalPaint* will create a palette customized to images opened in the program.

As for painting your own picture, you have several other important features other than the standard tools and manipulation modes. The brush size, weight, and type are fully configurable. Choose from several different mediums such as pencil, chalk, and oil paint. Set the brush head to solid or spray. Also, a selection of paper types is available. These features make it possible to create a more realistic painting with *OpalPaint*. Cut brushes may be resized, flipped, rotated, and warped. *OpalPaint* stores up to three brushes at a time on the main menu bar. It is also possible to save and load brushes to and from the hard disk. You use the regular drawing tools to define the area you wish to cut as a brush.

There is a line options menu which allows the user to configure lines to continuous line, dotted line, or a line appearing every certain number of pixels.



OpalPaint offers a variety of effects to create or enhance 24-bit images.

A first look at Centaur Software's hot new 24-bit image manipulation system.

by Elizabeth Harris & Jeff Gamble

The area fill menu allows you to set the fill to solid, graduated, or to a particular brush. The menu also offers a "warp factor," which allows you to make the filled area appear to bulge toward you. The gradient fill option allows the use of multiple colors in a fill. Direction, spacing, and radial settings are user definable. You can also set transparency gradients so that the transition of the area fill changes smoothly.

Drawing Modes

OpalPaint offers over 50 different drawing modes. Centaur has released the mode creation code into the public domain, allowing for an unlimited number of modes to be created. Many of OpalPaint's modes consist of different special effects that can be applied to your images. The standard mode of operation is the paint mode. Modes which offer special effects are mosaic, posterize, smear, smooth, and negative. Options such as increasing contrast, adjusting hue and tint, and sharpening the image are available as drawing modes. One of the more interesting modes is the "Colorize" mode; this allows you to add color to greyscale images. Proper coloring is achieved through adjustment of the HSV values for the palette chosen and the images being worked on. You can also achieve a more realistic look by changing the degree of transparency.

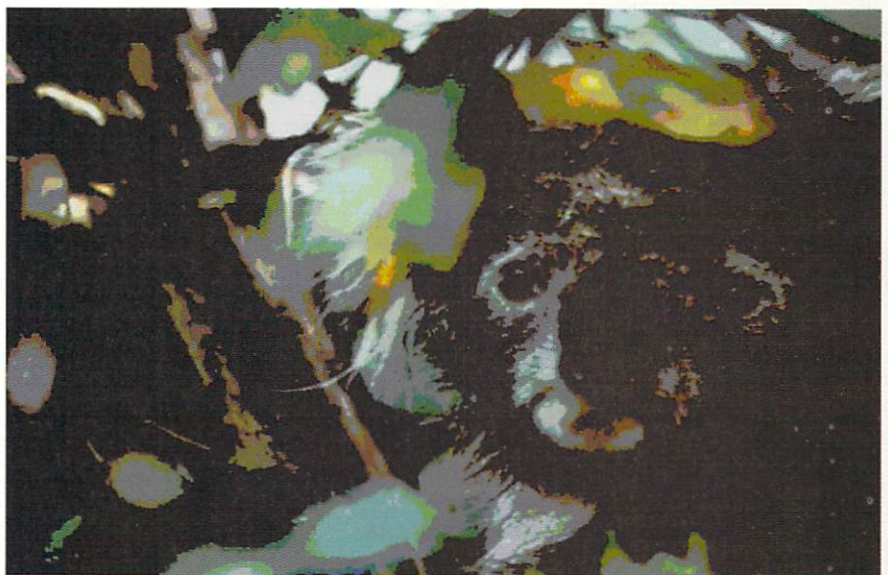
The Amiga artist can apply effects to the entire image or a portion of the image. Again, the drawing tools are used to apply the effects, though not all the tools are used all of the time. Smears are done mainly with the freehand tool. Smoothing, on the other hand, may be done with the freehand tool over a small area, or by drawing a filled box over the part of the image to be smoothed.

Other Features

The OpalPaint menus have "feedback lines" which provide information about the buttons on the menu. Placing the pointer above a button will call up its information in the feedback line. It is a friendly reminder of what the button does. It will



OpalPaint's "colorize" option allows you to take a greyscale image and turn it into color.



An example of the "posterize" effect in OpalPaint. OpalPaint's different modes use the standard drawing tools to apply the effects.

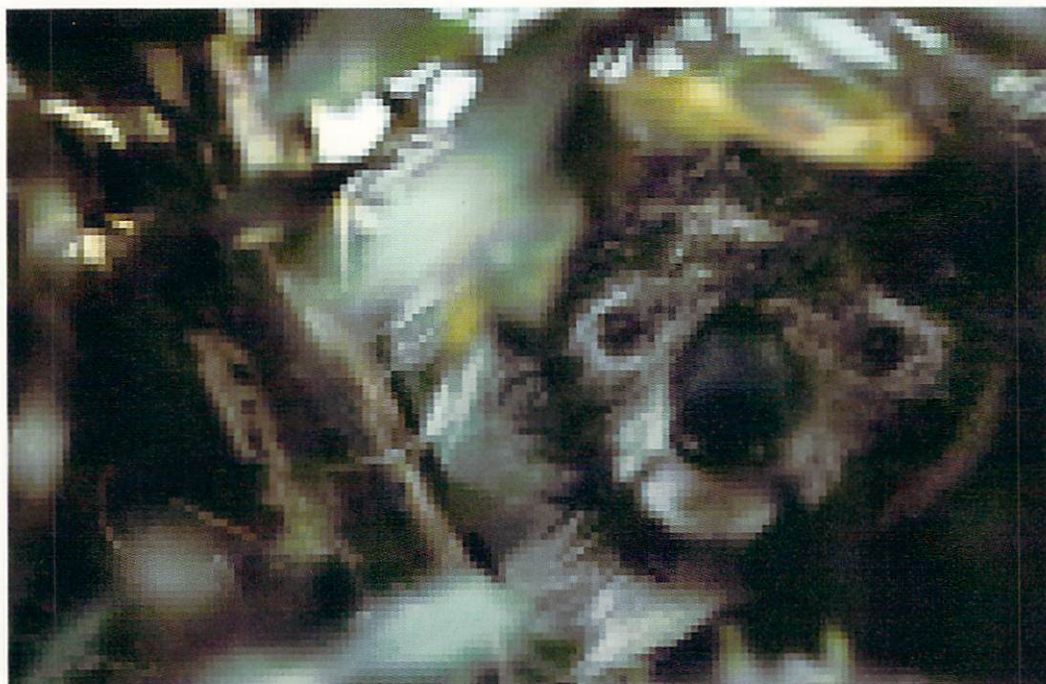
also display the button's keyboard equivalent. When the pointer, or crosshairs if a tool is selected, is over the image or screen, the feedback line displays the pointer's coordinates on the screen.

The OpalVision main information screen includes a "Panic Button" which, when pressed, automatically resets OpalPaint. This turns off most features of the program and re-equips the user with

images. It is also possible to import other Amiga graphics and live video into the program. Opal Presents includes several built-in transitions and effects including wipes, fades, and scrolling effects.

The program is a slide show manager. It allows the sequenced display of OpalVision images and offers a variety of transitional effects. It is fairly simple to use. You are presented with a film strip into

into OpalVision for manipulation. It will be possible to use this module to overlay text and graphics to video. Centaur will be releasing a special "Roaster Chip" which will bring real-time digital video effects to OpalVision. Some of the Roaster Chip's effects will include picture-in-picture display, real-time processing and morphing of live video, OpalVision output, or standard Amiga output.



OpalPaint's "mosaic" mode.

the basic drawing tools. This is a good feature for someone just starting with OpalPaint. Using the panic button will not disturb any work you have already accomplished. If it turns off any mode you wished to be in, you may easily return to that mode.

It is possible to have multiple working pages for different projects or for cutting and pasting between images. Each spare page can have a different image size or resolution and can be saved and loaded independently.

Although untested, OpalVision supports regular Amiga fonts including color fonts. It also supports CompuGraphic fonts. All drawing modes can be applied to the fonts.

Opal Presents

Opal Presents is a presentation program for the display of OpalPaint

which you import the images you wish to show. The transitions are on the main Opal Presents menu as buttons. Click on the picture you wish to apply the effect to, then click the effect button. You may change a picture's transition simply by selecting another effect button. Transition speed and the length of time an image is displayed are user configurable. Take note that you are working with 24-bit files and that the file size vs. the machine's RAM will affect the performance of the player. Our A3000 had 2MB chip and 4MB fast RAM and experienced trouble with the display times for the pictures. It took longer for the machine to load the files, thus displaying the previous file for longer than the set display time.

Video Capabilities.

Centaur will be releasing a framegrabber/genlock module for OpalVision in the near future. This will allow the importing of frames of live video

And a game too!

Centaur is shipping a copy of King of Karate with every OpalVision board. King of Karate is the first 24-bit video game for the Amiga.

Conclusions

OpalPaint offers an ample amount of effects for customizing images, and as a 24-bit paint program, OpalPaint performed very well. The standard tools make it easy to learn and use. The availability of the special effects make it more interesting to create 24-bit graphics in.

The manual is well done, giving comprehensive yet easy to understand explanations of all the options and modes. It also provides all the keyboard shortcuts and

gives ideas for using some of OpalVision's effects.

OpalVision is easy to learn and use. It is a good product if you are looking to do 24-bit painting and image manipulation. It will be interesting to see what the program can do for video. With the full implementation of the ARexx interface coupled with the video modules, OpalVision will become a strong competitor in the desktop video market.

•AC•

OpalVision

Requires:

1MB Chip RAM, 2MB Fast RAM
Hard Drive, 68000/020/030/040
WB 1.3 or 2.x

Centaur Development, Inc.
4451-B Redondo Beach Blvd.
Lawndale, CA 90260
(310) 542-2226
Inquiry #254



ROOMERS

by The Bandito

[These statements and projections presented in "Roomers" are rumors in the purest sense. The bits of information are gathered by a third-party source from whispers inside the industry. At press time, these rumors remain unconfirmed and are printed for entertainment value only. Accordingly, the staff and associates of Amazing Computing cannot be held responsible for the reports made in this column.]

The A4000 Arrives

By this time you've no doubt been inundated with the facts and figures about the Amiga 4000, Commodore's blazing-hot new Amiga. The Bandito's not going to rehash all that data, but it's important to note what the really key new features are. The new AA chip set (oops, that should read AGA according to Commodore's official jargon) offers a variety of resolutions which represent a terrific move upwards over the former Amiga graphics standard. But to the world at large, 640 x 480 x 256 color graphics are nothing new; they've had this on the Mac and PC's for years. True, the Amiga displays those graphics much faster than other computers, but for ordinary tasks like word processing this makes little difference. So that's not going to cause tremendous Amiga sales to eager PC users.

The new AGA capabilities that are most important are fast animation and HAM8 mode. Fast animation is important for multimedia applications, of course. And HAM8 mode gives you, essentially, 24-bit color on screen, and file sizes are smaller than actual 24-bit files. Best of all, the two features work together, and you can get 60 frame-per-second animations in HAM8

mode at any resolution. And that's the key feature that, if properly advertised, can sell a tremendous number of A4000s. Why?

Glad you asked that question. You see, what really motivates hardware, or software, sales is a clear way to save money. You show a customer how they can save hundreds, or better still, thousands, of dollars that they currently spend by buying a new piece of hardware, and their checkbook is open faster than you can say "easy payment plan." For example, if you spend several thousand dollars a month on typesetting, then spending \$10,000 on a computer, laserprinter, and software is a no-brainer. Similarly, if you spend \$30,000 at a video house to produce a brief video every few months, it's an automatic buy to pick up a Video Toaster and an editing system for half that price.

The A4000's fast true-color animation capability is just such a "gotta-have-it" feature, because if you do animations for videotape, an A4000 can save you the cost of a single-frame recorder. A Panasonic AG-7750 single frame video recorder runs about \$5,000; when you throw in an edit controller, time code generator, controller software, etc., you're probably looking at \$6,500. This enables you to take single frames of video, perhaps created in your 3-D animation package, and record them in sequence, one at a time, on videotape. Now look at what you can do with an A4000—you can store off as many frames of your animation as you have room for on your hard disk, then play them back and record them in real time. No more single frame control needed; you can use an ordinary VCR. So you've just saved

yourself about \$5,000 or so... and that's a pretty good reason to buy something, isn't it?

A big hard drive is handy, though, and lots of RAM, if you want to play lengthy 3-D animations in real time right onto videotape. We're gonna see a lot more of this once the A4000 gets popular. This is real desktop video—something that people can afford without selling their house or burning all their credit cards. And with HAM8 mode, you don't need a fancy 24-bit display card to get true-color pictures—another big cost savings. Now if only Commodore can figure out that this is the A4000's key advantage over other computers, and flog the heck out of it! No PC clone or Mac can even begin to touch that sort of animation speed at those kinds of resolutions, even with expensive add-in boards. Commodore should shout this from the rooftops.

And if Commodore's voice is heard, the big A4000 markets will be video and multimedia. Once professionals hear about what this baby can do, they'll be lining up to grab one. Heck, even the Bandito will have to start saving up for one, maybe by cutting back on buying games.

The A4000's arrival also portends big changes in the rest of the Amiga line-up. Already Commodore has been making public statements of future directions. For instance, there will be no more new Amiga models with the old chip set. Every new Amiga model from now on will have AGA chips, or better. Which also means that we won't see any more 68000-based Amigas, since the AGA chipset really

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needs at least a 68020, preferably a 68030. Over the next two years, we'll see a complete restructuring of the Amiga product line. Imagine a \$500 Amiga with AGA graphics, a fast 68030 and an 80MB hard drive. It may be here in 1994.

Computer Price Wars

It's been a tough year for the computer manufacturers; profit margins have plunged faster than sales of Atari STs. The price pressure has even affected IBM and Apple, which have taken drastic measures to cut costs and reduce prices to stay competitive. Look at what's happening: Apple plans to reduce prices every three months next year, probably an average of 10% each time if

needed to keep up with falling PC prices. PC prices have plummeted; you can now get a loaded no-name clone with a 33 MHz 486, SVGA graphics, 4 megabytes of memory, and a 120 meg hard drive for about \$1500 with a 1024x768 14" monitor. Sure, it lacks AmigaDOS, and coprocessors, but it sure does have some raw horsepower. Why not a similar Amiga price structure?

Yes, this pricing pressure also affects Commodore. Remember, Commodore used to price their computers quite aggressively in the past, but in recent years the pricing structure has seen some ridiculous glitches. It's been one special program after another, prices bobbing up and down like yo-yos, leaving dealers and consumers alike confused. What can we expect for Commodore prices in 1993? There are some mixed signals coming out of Westchester.

Commodore's aggressive pricing on the A4000 is a wonderful sign for the future. Of course, Commodore would have loved to charge a lot more for it, but market conditions have made that impossible. Still, \$3,699 isn't exactly giving it away, but you can find it at some places for about \$3,000. At the other end of the spectrum, the A600 isn't too expensive, but it's still rather high for a computer with the same old graphics and processor as the Amiga 1000 from 1985. Haven't we progressed in the last seven years? And in the middle of the product line, things are very confused. How about the on-again, changed-again A3000 promotion? First it was "Buy an A3000 and get a Free CDTV!" That only lasted for a couple of weeks, before Commodore decided to change the promotion to "Buy an A3000 Cheap and Get SCALA Software Free."

The new prices, which at press time were only good through the end of November, are \$1,499 (!) for a 25 MHz A3000/50 (100MB for \$1859) with the SCALA Multimedia Authoring system thrown in.

An amazing deal; it's less than half the price of the new A3000 when it was introduced. This does leave open the question of who would buy an Amiga 2000, which is selling for about the same price. And then many A3000 owners who were considering selling their machine to pay for an A4000 purchase just saw their computer lose quite a lot of value in the resale market.

Clearly, Commodore has to revise pricing for the entire product line. And you don't have to be a rocket scientist to figure out that with the A4000 so

AUDIO GALLERY

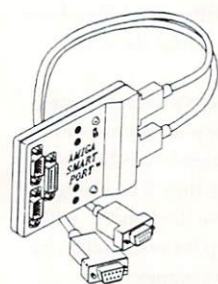


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aggressively priced, that doesn't leave a lot of room for A3000s. And even at a low price, many buyers may not want to get an A3000 with its old graphics chips that can't be upgraded. (Well, at least not yet. But the Bandito suspects that some savvy developer will figure out a way to upgrade.) So the A3000s are getting price-reduced to clear out the inventory, perhaps in preparation for a lower-cost version of the A4000, maybe with a smaller hard drive and a 68030 instead of the 68040. In any case, expect big changes in the product line for 1993. The Bandito expects the A2000 to disappear, and new models to form the middle of the product line. We may even see by 1994 the current A500 and A600 transformed into a new low-end Amiga with a similar form factor and



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pricing, but containing the AGA chips and a 68030 as standard equipment.

Oh, and Commodore also says they have a new promotion in the works for CDTV which will be announced Real Soon Now. Maybe they'll give away an A3000 with every purchase. All kidding aside, they do want to clear out the current CDTV inventory to make room for a new version sometime next year. The Bandito hopes the engineers win the arguments with marketing; the engineers are pushing for CDTV with the AGA chip set and a 68030 as standard equipment.

RISCy Business

Here's a fascinating news tidbit: Apple and IBM have announced that the PowerPC RISC chip that they are developing with Motorola will be made available to any computer maker who wants to use it. The PowerPC chips as supposed to be a superhot series, with the wimpiest chip capable of 10x the performance of a 68040. The first ones are coming out in 1993. Will Commodore decide to use the PowerPC as their RISC chip? Statements made at the World Of Commodore show certainly lead the Bandito to believe that Commodore knows that RISC is the wave of the future. Motorola may not even put out another CISC chip after the 68060, and some observers think they may not even put out that chip.

Of course, there's quite a few RISC chips to choose from. The Bandito thinks that the PowerPC is particularly attractive because it offers Commodore a chance to join the mainstream of computing. After all, they'd now be using the same CPU as Apple

and IBM. Now if Apple and IBM can only come up with a reasonable bus architecture, Commodore might even sign on to that. Both NuBus and Micro-Channel buses look rather crude compared to Zorro III. With Commodore promising RTG (retargetable graphics), using other CPUs will be a lot easier in the future. Of course the OS would still have to be rewritten, or at least some parts of it. When would you see a RISC-based Amiga? Don't even begin to look for one until 1994, and you may not see one until 1995.

Burning the Toast

It looks to the Bandito like the desktop video market continues to heat up. Many companies that make computer products or video products have decided that the Video Toaster is the target to shoot for, and we're

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starting to see the first bullets. Matrox has a multiple-board set of video stuff for the IBM, and a company called FAST has been showing off their board for Macs and IBMs that does a few video-switching tricks. Even standard video companies like Pinnacle are trying to reach for the lower end—one ad touts their low end switcher for only \$11,000, and you can expand it to include a paint program and a still store for only thousands more. And in the Amiga market, there's a lot of competitors trying to cut away pieces of the Toaster's graphics and video market, with 24-bit display boards offering various video features, or perhaps future potential for Toaster-like functionality.

In a time of lower profit margins and sagging sales, more companies are looking to multimedia and video to rescue them. So we can expect many new products in this area, and that means more competition for

NewTek. They've shown themselves capable of terrific products and slick marketing in the past. Will they pull it off again in response to this new challenge? Or are they content to rest on their laurels?

Right now, there's still nothing that matches the Toaster's price-performance for all of its various tools in video effects, color processing effects, and so on. However, it's clear that the gap is closing. The Toaster 2.0 software provided a number of nice features, but the most advancement was in the 3-D program. What about some hardware refinements? What about those Toaster RAMpacks that were shown? Or a Toaster that fits into the A3000 or the A4000? And then there's all those connectors on the Video Toaster board that have to be good for something. When are we going to see hardware that plugs into them? The boys in Topeka better get busy if they don't want to be left behind. Sure, sure, they're working on cool stuff in the labs, but they have to tear those toys out of the engineer's hands and ship them. Creeping featuritis caused long delays in the initial Toaster shipment. Is that the problem now? True, true, NewTek has started to advertise Video Toaster T-shirts and posters, but the Bandito doesn't consider that to be an important new video product. It's about time the Topeka Technards turned the world on its ear again, don't you think?

Besides, Commodore will probably discontinue the A2000 sometime in 1993, which means that there will be no machine for the Toaster unless NewTek finally comes up with a new board design. And those Video Toaster Workstation prices

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should really come down, too, what with plummeting A2000 prices. NewTek will have to come out of its slumber and make some aggressive moves this year to stay current with the marketplace.

Legal Wars

The Bandito has some news to report from the courtrooms. Seems that Accolade has won its fight against video game giant Sega. Sega, you may remember, charged Accolade with trademark infringement because Accolade was making Genesis carts without a license. The case attracted much attention in the software business because Sega won an injunction against Accolade based on Accolade's reverse engineering process, which of course is used by just about everybody in the hardware or software business—at least to check out how the competition does things, if not to create your own version. While Accolade lost the first round, they won in federal appellate court, so Sega has effectively lost unless they can get the Supreme Court to rule, an unlikely event. If Sega had won, hardware companies might have been able to control development of software for their machines—a frightening prospect. But all's well that ends well.

While one lawsuit gets settled, another one starts up. Entertainment giant Electronic Arts is being sued by ESPN for trademark infringement. Seems that ESPN has finally noticed EA's use of the "Electronic Arts Sports Network (EASN)" logo on all their sports games, and ESPN is annoyed because it looks a whole lot like their logo. Too early to tell what will happen on this one, but the Bandito will keep you posted.

Meanwhile, Electronic Arts has purchased Origin Systems, creators of the Ultima series, for a cool \$35 million in stock. EA will keep the company running pretty much as before, which means that we should see the long-awaited Wing Commander for the Amiga soon. The Bandito hears that Amiga versions of other Origin titles are planned, and that Amiga versions may come out much faster in the future. We shall see, won't we?

The Bandito's Fearless Predictions for 1993

Once again the Bandito risks life and limb to gaze into that hi-res interlaced overscanned crystal ball and predict the future of the Amiga—or at least the next 12 months of the Amiga. By the way, the

going into 1994, with several new machines coming out around the end of 1993 competing with a revised and revitalized CDTV.

• Commodore will announce support for a RISC CPU for future Amigas; they will name the CPU at a press conference in the fall. Throughout the year, Commodore will be discussing future product plans in far greater detail than ever before.

• As part of their new product strategy, Commodore will release at least 5 new Amiga models in 1993. Prices will be cut on current models to move them out of inventory; production will cease on the A2000 series. The A3000, A500 and A600 models may not cease production until 1994, but they too will be replaced by newer Amigas.

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great thing about Amiga-based crystal ball gazing is that you can download a file and have a game running while you look at that multimedia presentation of future events. Ain't multitasking grand?

So here's a handful of future visions, based on the best of the inside data and custom co-processing. Your mileage may vary, of course. Batteries not included.

• CDTV and all CD-ROM machines will do very poorly in the market, including Philips' CD-I, Tandy's VIS, and Sega's Mega-CD. However, CD-ROM drives to add on to computers will continue to do well. Commodore will release a revised CDTV and continue to support it, with gradually increasing sales towards the end of the year. The CD-ROM picture will look very different

PSST!

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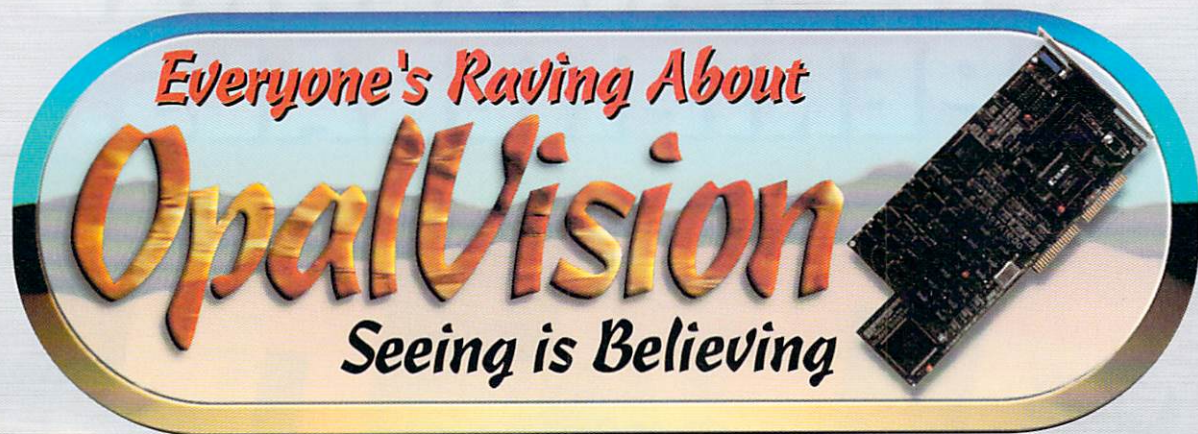
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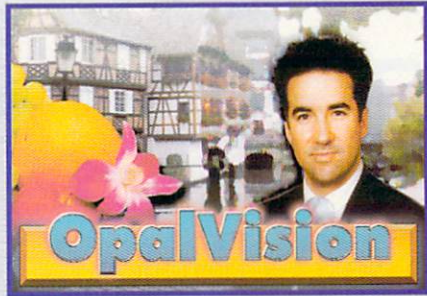
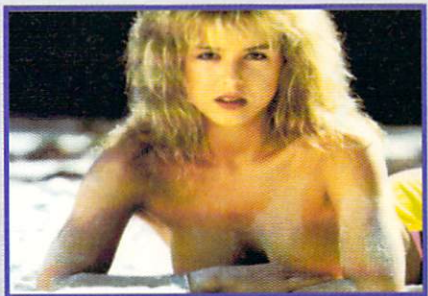
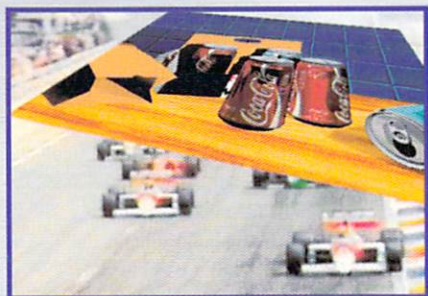
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- Occupies the video slot of any Amiga computer.

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Caligari 2.1

The Next Generation

by R. Shamms Mortier

When I first read a magazine article several years ago about how a preview video of a certain Amiga 3-D program wowed everyone who saw it, I wasted no time in tracking down the developer, Roman Ormandy of Octree Software, and badgered him for more information. There was no other package on the Amiga market, or on any other, at that time that could even make the claims that *Caligari* could. Well, the short of it is, I bought one of the first *Caligari* packages that were released, and over the years, have continued to receive and marvel at all of the upgrades. In the beginning, there was only one version of the software, but in these intervening digital moments, several

versions have appeared. There is now the Broadcast Professional version, which is tied to high-end 24-bit technology, like the GVP-Impact series of boards, and the upgrade to what was previously known as the "Home Version," now called *Caligari 2* (\$399).

The original Home Version of *Caligari* was a severely stripped-down package. It had the same superlative interface, but as far as rendering, it offered only rough polygonal graphics in hi-res and medium-res—16 colors plus dithering. Not that this rendering was totally useless, for the rendering engine of *Caligari* has always been one of the fastest in the industry so that making an animation or a series of

stills for ANIM brushes has always been both fun and useful for certain applications. But then again, the Home Version #1 didn't have animation capabilities except for single framing. All of that has changed.

Caligari 2 requires at least 2MB of memory. It is not multi-tasking, but does allow you to bring up a shell while in the program. A hard disk and an accelerator board are "highly recommended." *Caligari 2* now has 99% of the attributes of the Broadcast version. The only difference now is in addressing the highest-end 24-bit boards and some souped up speed features tied to those boards. Otherwise, *Caligari 2* is one of the most amazing graphics and animation engines that the Amiga can boast of.

The Object Design Screen

This is the place where you build the actors that are to populate your animated screens. There are three ways to do this. The first is to import an object. *Caligari 2* supports the loading of *VideoScape* (.GEO and .vs3D), *LightWave* (.LWOBJ), and *Sculpt* (.SCENE) objects. This makes it a nice bridge to these different and popular Amiga formats, and a usable addition to Toaster works. They promise support for more formats in the future.

The second way to get objects on the screen is to construct them using the library of primitive objects in *Caligari 2*. These



Here we see a composition that was saved as a "QRender." It is a 16-color hi-res picture that is dithered so that it seems to have more than 16 colors. This is *Caligari*'s preview mode.

primitive shapes can be glued together in an infinite number of ways after being resized, twisted, rotated, and/or squashed. This means that very organic figures can result in the final run. The primitives are also available for a new Caligari 2 operation: the extrusion and twisting of their points and faces. With this possibility, the face of a sphere, for instance, can be modeled as if you were using a ball of clay in your hands, reshaping it into the object of your desire. Memory-wise, it's more economical to reshape one primitive than to glue a bunch of separate primitives together towards the same end when storing the result.

The third way to create your actors is to go to the Caligari 2 extrusion screen. Here, you can draw shapes on a gridded surface and then transfer them to the object design screen in any of three ways:

1. Shapes can be placed on screen as flat planes, great for surfaces upon which your actors will play their parts.

2. Shapes can be "extruded," that is, drawn like taffy on a chosen axis, so that they achieve perceivable "depth"—nice for letters which you want to appear in 3-D, or logos.

3. Shapes can be spun in any rotational degree around a chosen axis, creating objects like wine glasses, organic forms, or parts of larger objects.

All shapes created in the Extruder may be saved separately, making it possible to create and save whole primitive alphabets or sections of mechanical and organic devices. The extruder is lightning fast. LightWave and VideoScape extensions may be applied to the designed objects, so creating Toaster objects intuitively is a great advantage to owning this software. Objects may be saved on a separate library disk of images. Again, Toaster owners might just consider this software as a vital utility, given the somewhat complicated way the 3-D modeller functions in the Toaster. Owners of ADSPEC Programming's *Draw-4D Pro* may also want to add Caligari 2 to their satchel of software, as *D4D Pro* can also import and render VideoScape objects (version 1.2 and above). Object design in Caligari 2 is intuitive and enjoyable to the max with this super virtual-reality interface.

Manipulating the Actors

The primary Object Design screen is seen in perspective, and fills the Amiga viewport. But that doesn't mean that you are relegated to this view of your objects. You may also access the normative Front/

Side/Top views at any time by the touch of the mouse. This feature and the ability to zoom very close to any image point allow you to place sections of objects exactly where you want them for glueing. You can either leave finished actors in place and move on to the next ones, or save them and then erase them from the screen, probably an advisable move to increase wireframe rendering speed. Not only can the actors be moved and sculpted, but the Screen itself can be rotated on any axis, as can your "Eye," or "Camera." In the Object Design module, Caligari 2 gives you every opportunity to get exactly the object you are looking for, down to the smallest detail. All of this is done so that you actually feel that you are manipulating real material in a virtual 3-D space, and not merely playing with a flat computer screen. I am sure that Caligari was studied long and hard before

saved in the Caligari 2 format alone. I hope that a future edition also allows the saving of an entire scene as a VideoScape and LightWave file, to make the porting of entire scenes easier where objects are already positioned in specific relationships.

The placement and qualities of lights in Caligari 2 remain an artifact from other Caligari editions, and is unfortunately the antithesis of intuitive practice. It is based upon numeric indicators alone, is difficult to understand, much less to master, and is accompanied on-screen by no visible indicators or icons. This is not suitable, as too much time is wasted in guessing where the lights are, and in doing rendering previews. There is little reason why such an exquisite design interface should not be able to share its visual magic with the placement and manipulation of light



Here is the same composition rendered as a DCTV 40-plane frame buffer, and saved in the "scratch" drawer as an IFF scene. This was then loaded into DCTV paint and saved as a 24-bit file.

NewTek decided that LightWave should also have a 3-D virtual-reality interface.

The Scene

This is the stage upon which your selected actors are placed and positioned, ready to be set in motion and rendered in blazing color. Actors are imported from saved niches in your 3-D Object libraries. When you exit the program, the Scene you are working on is saved to disk. It's necessary that the Objects be in the same directory as the Scene so that they can all be loaded together if you quit the session. I think this should be altered, and that a requester ask you for DiskX where the Objects are located as an option. Scenes are

sources, and it is hoped that the next upgrade will address this situation.

Animation

Caligari 2 offers the user two exquisite forms of animation editing. The first is my favorite, as it seems to be a cousin to the virtual-reality method that Caligari uses to accomplish object design. It is an interactive visual method accessed from the Scene module, and offers all of the ease and intuitiveness that Toaster users are familiar with in LightWave 3D. Objects are targeted as parts of "keyframes" and the computer is left to create the "In-Betweens" of the sequence. With this method, endless experimentation and viewing of the results

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in real time is promoted. A complete graphical interface, much like the controls on a VCR, is used to access the sequence and target specific moves. Once finalized, the animation can be saved as a scriptfile.

The second animation method may be experienced as a bit less intuitive as it requires the writing of a Script first. There are, however, many pages of the manual dedicated to the use of the proper syntax necessary in the creation of Scripts, so Octree makes every attempt to make the process as easy to understand as possible. Once you understand script creation, it can actually open up more avenues of exploration and animation production than real-time visual manipulation. I would think that Amiga artist/animators would opt for the visual method first, while programmer types might be more comfortable with the Scripting method. Scripting the animation can also be done after it is put together in the real-time mode, as this allows for fine tuning, such as acceleration and deceleration of movements. In either case, fully rendered animations can be saved to disk for later playback.

Rendering

"QRender" and "BRender" are two Caligari 2 terms that you must become familiar with. QRender means "Quick Render," a way of previewing a scene's objects for position and basic lighting, while BRender means "Broadcast Rendering," and includes material wraps, textures, shadowing, reflectivity, and environmental mapping. QRendering, by the way, is also available in the Object Design module. QR gives you a dithered hi-res look, suitable for some applications, but only for preview if the application is to be recorded to video for broadcast.

It is in the BR mode that Caligari 2's professional look and "realism" are achieved, as it allows for maximum control of the textures and reflectivity of the objects. Caligari 2 features five shading alternatives: Flat—useful for 2-D graphics and fast previewing; Gouraud—for shading non-shiny surfaces; Phong—great for polygons that are to experience illumination intensities; Meta—for emulating realistic metallic surfaces, and which the coefficients for Bronze, Copper, Gold, Tin, Nickel, and Stainless Steel are included; Environment—for creating reasonable approximations of chrome and glass reflective surfaces.

Transparency can be set from 0 (fully transparent) to 255 (totally opaque).

BR also takes full notice of the lights, and creates very different looks depending upon the light's color, intensity, position, type (infinite, local, spot, shadow), and upon the casting of shadows. Different shaders support different lighting effects. Texture map anti-aliasing is also supplied. The shadows cast by BR objects take note of transparency and coloration, producing some reality-invoking graphics. Since Caligari 2 uses the hard drive as the default for intermediate storage of renderings, taking many megs per frame of a full color scene, it may be wise to use RAM as an intermediate storage area. Be advised, though, that only users with full complements of RAM, 8MB or more, should attempt this. Though Caligari BRenderers at very fast speeds, it can take 15 to 30 minutes a frame to do its work. You can render directly to your chosen FrameBuffer from within this module. The Scene's Objects can be rendered as Solid with all of their attributes, Faceted, Dithered to reduce color banding, and from none to maximum anti-aliasing. Color WireFrame is wrongly included as an option in the manual—corrected in a ReadMe file on the disk—because it is a true 24-bit option, and Caligari 2 does not render in 24-bits.

As far as Texture Mapping is concerned, Caligari 2 accepts .6rn (Caligari Rendition format) and .WIN (Truevision/Targa/Vista format) files. *MacroPaint* and *TVPaint* (GVP) will generate these files directly, but don't try to use any other 24-bit Amiga file in its natural state. You can use ASDG's *ArtDepartmentPro* to translate 24-bit art into Targa and Rendition formats. The texture mapping capacity of Caligari is not intuitive, and compared to other Amiga 3-D/4-D programs, is not as user friendly either. Objects created in the Extruder module all have default Texture mapping capacities, but only the Square, Sphere, and Bullet primitives have a default texture mapping. The other primitives may not be Texture Mapped.

Conclusion

Unlike the situation a few years back, there is no lack of 3-D rendering and animation vehicles that the Amiga can ride. One needs only to mention the NewTek Toaster software, Impulse's *Imagine*, ADSPEC's *Draw-4D Pro*, *Sculpt 4D*, *REAL-3D Pro*, and Hash's *Animation:Journeyman* to emphasize the point. The empty landscape that Caligari walked on when first released is now populated with lots of 3-D vegetation,

so the competition for the fairly restricted Amiga 3-D/4-D market is making sales tough. There are real standards that are being set. Some of these standards involve making sure that a package has the capacity to wrap IFF graphics on 3-D objects. Caligari 2 doesn't do this, but prefers the now-outdated method of wrapping only targa images on objects. That is simply not good enough. Though you can take a Targa image and translate it into an IFF with ASDG's Art Department Pro, who needs the extra headache, time, and expense? The methodology and explanation of how Caligari 2 utilizes its proprietary texture-mapping facility to target a 3-D image is too convoluted, and should be either changed or at least supported by a much clearer tutorial section in the manual. If you are not careful about what you render and in what order in a scene, you can wind up with a rendering that uses all of the available space on your hard disk! I once made this mistake, and 15MB later my disk ran out of room. There should be other options as far as storing everything in one place, or at least a more concerted effort to explain the file path operations in the manual. The manual also cries out for a thorough index at the back. My number one complaint is that Caligari 2 has no visible icon for the placement of lights, like the excellent way these are graphically addressed by the Toaster, but has instead a somewhat complicated numerical interface. Exactly where finished images are stored, and their easy retrieval has to be made much clearer in documentation. There also should be an option that allows you to save icons with a scene. The days are over when the only way to think of the Amiga as a first-class rendering engine was to add a BridgeBoard and a Targa board. The Amiga does not need MS-DOS or any other platform capability to prove its worth as a videographic tool, so any attempt to hold on to this vestige of the past is unwise and unwarranted.

The Caligari 2 virtual-reality modelling screen is still one of the most awesome 3-D creation experiences you will ever have on the Amiga. The animation previewer is second to none in speed, options, and real time interfacing. The Broadcast renderer can produce astoundingly "real" 3-D works. Addressing DCTV and other rendering options allows the low to moderate end Amiga 3-D operation to experience a vintage Amiga package. Caligari, however, in all of its versions, started off by hedging its bets with the Amiga by trying to transform the Amiga into an IBM clone. It needed a Bridgeboard and a Targa board in the

beginning, and some of that prejudice still echoes today. It does indeed address all of the best Amiga peripheral viewing options available, and more will be added as the upgrades come to pass; Caligari is upgraded in a major way once or twice a year. Caligari still needs to adjust its file requesters to make them have a more standard look and functionality. For instance, the only way to save a DCTV picture at the moment is either to save it as an animation, or as a one-frame pseudo animation, or to grab the IFF scene save from the "Scratch" drawer after you shut it down. That is not good enough. The user should be able to select a gadget that says something like "Save Framebuffer Pic," whereupon an understandable file requester should pop up with easily selectable save paths.

Personally, I think that the Object Design module alone is worth the price if you are an obsessed Amiga animator, as it can also act as a generic modelling engine for other rendering packages if you prefer. This can be done by utilizing the aforementioned dynaCADD package, or with the coming release of *Pixel-3D 3.0*. Octree has always listened to what their audience has had to

say regarding revisions and additions, and I am hoping that this practice will continue well into the future. Roman Ormandy assures us that each new release of this medium-end Caligari product will match the last release of the higher-end broadcast software. Need we ask for more from a developer who has given so much over the years to the Amiga community?

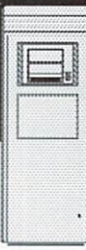
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Caligari 2
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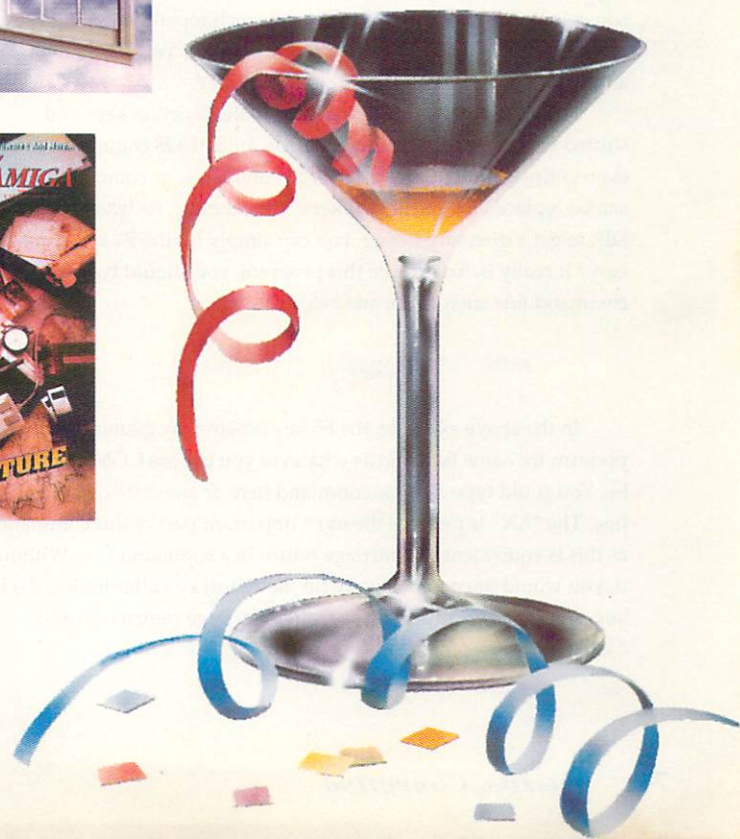
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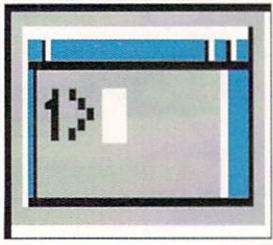
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cli by Keith Cameron directory

Commodities, Part 1

On the Extras disk which accompanied my 2.04 system upgrade, there is a directory within the Tools directory called "Commodities." This directory, or drawer, contains the Commodities Exchange programs, a group of programs that can enhance your use of the CLI or Shell. All of these programs can be called from the Workbench as well as from the Shell, but we will examine their use strictly from a CLI environment. Since there are six programs in the Commodities directory, I will discuss three of them this month and the remaining three next month.

As most of you who have been reading my column know, I truly do prefer using the Shell rather than Workbench. With the new features on version 2.04, however, I find that using the Shell is not as essential as it once was. Still, I enjoy the feeling of power and control that the Shell gives me, and I continue to find it to be more versatile and resourceful than Workbench. I must admit, though, that I frequently tire of typing in commands and long command lines. Of course, the Shell's command history alleviates this problem somewhat. Another way to circumvent such repetitive typing is by using ALIAS, as I discussed in a recent column. Yet, there is still another alternative, and that is by using FKEY.

FKEY allows the operator to utilize the function keys and shifted function keys as substitutes for AmigaDOS commands, or even entire command lines. Thus, 20 commands or command lines can be replaced by one or two keys. For example, instead of typing DIR to get a directory listing, you can simply hit the F2 key. Sound easy? It really is. To execute this program, you should type a command line such as the one below:

```
FKEY F5=COMMAND\N <RETURN>
```

In the above example, the F5 key is being programmed to perform the same function as whatever you choose COMMAND to be. You could type a single command here or an entire command line. The "\N" is perhaps the most important part of this command, as this is equivalent to a carriage return in a command line. Without it, you would have to manually hit the return key after hitting the F5 key. Another way to add an automatic carriage return is to add "\R" to the assignment.

The above is an example of a function key replacing a single command. As I've said, an entire command line can also be replaced. You could, for example, have typed something like this:

```
FKEY F5=DIR DF1:\N <RETURN>
```

Now, any time you want to get a directory listing of df1:, all you need to do is hit the F5 key. Of course, you can program all 10 function keys and all 10 shifted function keys the same way.

Each time you execute the FKEY command, the mouse-driven program window will pop up. You should see that the first three function keys (F1, F2, and F3) have already been programmed. You can, of course, change these if you wish. As with most Amiga software, simply click in the text gadget you wish to type in and use the right-Amiga X combination to erase whatever may be on that line. You can, of course, also use the Backspace and Delete keys to erase any text. The gadgets at the bottom of the screen are self explanatory with the possible exception of the "Modifier" gadget. If you click in it, you will see that this allows you to use the shift combination.

In addition to adding returns, it is possible to add other functions to commands or command lines used with FKEY. For instance, "\T" will add a tab, while "\0" will add a zero. You can also add angle brackets (<>) containing various qualifiers and key combinations; some of these key qualifiers are discussed in a few paragraphs.

One problem I have discovered with FKEY is that it takes precedence over some other programs. If you use another application that uses the function keys, you may find that they do not work properly. For example, *Scribble!* uses the F4 key as a keyboard

shortcut for saving documents. If you are running FKEY, though, and have assigned a command to the F4 key, you will find that the save shortcut on Scribble! does not work; instead, the FKEY assignment will be executed. There are ways to get around this problem, but that is the subject of another column. For now, you simply need to be aware that such a situation can exist.

A Commodities program which works similarly to FKEY is IHELP. Instead of assigning text strings to function keys, it allows the operator to use the keyboard rather than certain Workbench gadgets. Basically, it allows you to do two things from the keyboard. First, it allows you to alter the size of windows. Second, it allows you to move windows or screens from the back to the front of the screen.

There are five switches, called either operations or Tool Types, which can be used with IHELP. They are CYCLE, CYCLEScreens, MAKEBIG, MAKESMALL, and ZIPWINDOW. CYCLE and CYCLEScreens are similar. CYCLE moves whatever window is at the very back of the Workbench screen to the front and makes it the active window. CYCLE only moves tool or project windows, though; disk and drawer windows will not be moved. CYCLEScreens is similar to CYCLE, but it affects screens rather than windows. Both of these more or less replace the depth gadget in the upper right-hand corner of the Workbench screen. MAKEBIG, MAKESMALL, and ZIPWINDOW all alter the size of windows in some fashion. Both MAKEBIG and MAKESMALL replace the use of the sizing gadget at the bottom right-hand corner of the Workbench screen while ZIPWINDOW replaces the zoom gadget just to the left of the depth gadget in the upper right-hand corner of the Workbench screen.

To execute IHELP, you can use practically any key on your computer's keyboard, but it must be preceded by what is known as a qualifier. You are already familiar with most qualifiers used by Amiga, especially the following: the Ctrl key, both Alt keys, both Shift keys, and both Amiga keys. There are other qualifiers, but these should be more than enough for most users' needs. For a more complete list, you should refer to your Amiga manual or any of the AmigaDOS books on the market.

In order to designate qualifiers on a command line, you need to code them. For example, "Alt" can mean either of the two Alt keys, while "RAlt" means the right Alt key only and "LAlt" means the left Alt key only. "LCommand" refers to the left Amiga key while "RCommand" refers to the right Amiga key. Similarly, "RShift" naturally means the right Shift key while "LShift" is for the left Shift key. It is imperative that each qualifier be followed by a key from the typewriter keyboard of your computer; Alt alone, for instance, does not mean much.

With the above in mind, a typical command line for IHELP might look something like this:

```
IHELP "MAKEBIG=LCommand B" <RETURN>
```

Notice the use of quotation marks. This is due to the space between "LCommand" and "B"; if there were no space, no quotation marks would be needed. Now by hitting the Left Amiga B combination, the active window will become full size.

All of the operations within IHELP have defaults. If you were to simply type IHELP by itself, the following defaults would be active.

OPERATION	DEFAULT
Cycle	F1
MakeBig	F2
MakeSmall	F3
CycleScreen	F4
ZipWindow	F5

One Commodities program that I enjoy, although it seems relatively insignificant, is AUTOPOINT. I always have a Shell window running, regardless of what I'm doing, but especially so when writing my column. I switch back and forth between it and my word processor constantly using the depth gadget on the Workbench; this allows me to double-check the information I put in my column. Sometimes after switching from one window or screen to another, I start typing right away. When I look at the monitor, I then notice that what I have typed is not on the screen. Of course, the reason is that I have not made the foremost screen active by clicking in it. This is where AUTOPOINT comes in.

AUTOPOINT selects or makes active any window which the pointer is over. There is absolutely no need to click on the window. As have said, it's nothing that will save the world, but it certainly saves me some retyping and a little bit of irritation.

To execute AUTOPOINT, all you need to do is type the command in a Shell window and then hit the carriage return. And that's all there is to AUTOPOINT.

Besides Commodities Exchange programs, the three programs in this month's article and the three in next month's column share some other features. First, all of them can be executed like AUTOPOINT above; that is, you only need to type in the program's name and hit return. However, doing so removes control from your Shell window, so I would suggest using the RUN command to execute them. To exit the programs when the RUN command has not been used, simply hit the Ctrl-E key combination.

There is another similarity for those commands which have a program window, such as FKEY in this column. There is a way to prevent the window from popping up each time the program is run. For these programs, simply type "CX_POPUP=NO" in the command line. This will bypass the window.

Finally, you may wish to include these programs in your computer's startup-sequence so that they will always be there. I find this to be especially true for AUTOPOINT and FKEY.

Next month, we will examine BLANKER, NOCAPSLOCK, and CLICKTOFRONT. Additionally, we will examine priority settings for all of the Commodities Exchange programs. If you are using AmigaDOS 2.04, experiment with these in the meantime.

•AC•

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Structured Drawing & TrueBASIC

by Paul Castonguay

Structure in programming refers to how a project is divided up into elementary parts called program units, each of which provides the solution to one small aspect of a programming task, and together provide the entire solution. Modern programming theory dictates that complex problems are best solved by designing them as a collection of such units, and in such a way that they invoke each other in a hierarchical fashion. For example, within a program there may exist a unit whose purpose is to insert a record in a file; let's call it InsertR. However, to accomplish its task, it may invoke the services of other units, perhaps one to open a channel to the file on disk, another to write the record to the file, and finally a third to close the channel. These other three units would be considered subservient to InsertR because they are invoked by it. In addition, each of these subservient units could themselves invoke others, if they needed to. For example, the unit to open a channel to the disk file may invoke another unit to present the user with a dialogue box in order that one of many data files can be selected. To initiate all the above actions from any point within your program requires only that you invoke the one unit, called InsertR. The others will get invoked automatically. The term "Program Structure" refers to how you have designed the elementary parts of your project to invoke each other in this hierarchical manner.

Languages that support hierarchical structure must provide the ability to design elementary program units with three important properties. First, their variables must have the ability of being local, that is, known only within that particular unit.

Thus the internal operation of each unit is protected from interference from others within the project, even if they use variables of exactly the same names. Second, different units must be able to communicate certain values between each other as needed by the solution of the problem. This is usually done through an argument list, which is specified whenever a particular unit is invoked, although in TrueBASIC it can be done in other ways as well. Third, any program unit must have the ability to invoke any other unit within the project. To accomplish

these requirements, AmigaBASIC provides SUBPROGRAMS. TrueBASIC provides external SUBROUTINES, FUNCTIONS, and PICTURES.

Although AmigaBASIC does provide the first two above features, it does not provide the third; that is, in AmigaBASIC a SUBPROGRAM cannot invoke another SUBPROGRAM. Program execution must first return to a main section of the program before a second SUBPROGRAM can be invoked. This restricts your design to only one level of hierarchical structure and is perhaps the major reason why that language is generally perceived as being under-powered. In contrast, TrueBASIC fully supports any level of hierarchical structure, not only for the logic design of your program, but for graphics as well.

Why Structure Graphics?

Some Amiga users are already familiar with the term "structured drawing" through the use of such software as *Imagine* and *Professional Draw*. To demonstrate what this concept means within a programming environment, I will present a simple representative example.

Consider the image of a house. A house consists of walls which contain windows, each of which is mounted at a certain location in a wall. An unstructured approach would be to specify the locations of each corner of each window within the wall, perhaps like this:

```
PLOT 0,0; 50,0; 50,30; 0,30; 0,0 : The wall
PLOT 3,4; 6,4; 6,8; 3,8; 3,4 : One window
PLOT 13,4; 16,4; 16,8; 13,8; 13,4 : Second window
```

In this example, the reference point of the wall would be its bottom left-hand corner. One problem here is that for you to realize that the window is three-feet wide and four-feet tall you must perform some mental arithmetic. Similarly, it is not immediately evident that both windows are the same size. In this case I have chosen easy, integral values, but in the real world, with fractional values, the required

mental arithmetic would be more difficult. You might even need a calculator.

Suppose now you want to draw this same wall as part of a house within a scene whose reference point is at a different location. To do that, you will have to change the numbers for both the wall and its windows.

```
PLOT 13,9; 63,9; 63,39;
13,39; 13,9 : Wall
within image
PLOT 16,13; 19,13;
19,17; 16,17; 16,13 :
: The window
PLOT 23,13; 26,13;
26,17; 23,17; 23,13
: Second window
```

Here the wall has been moved 13 units right and nine units up in the image field. The

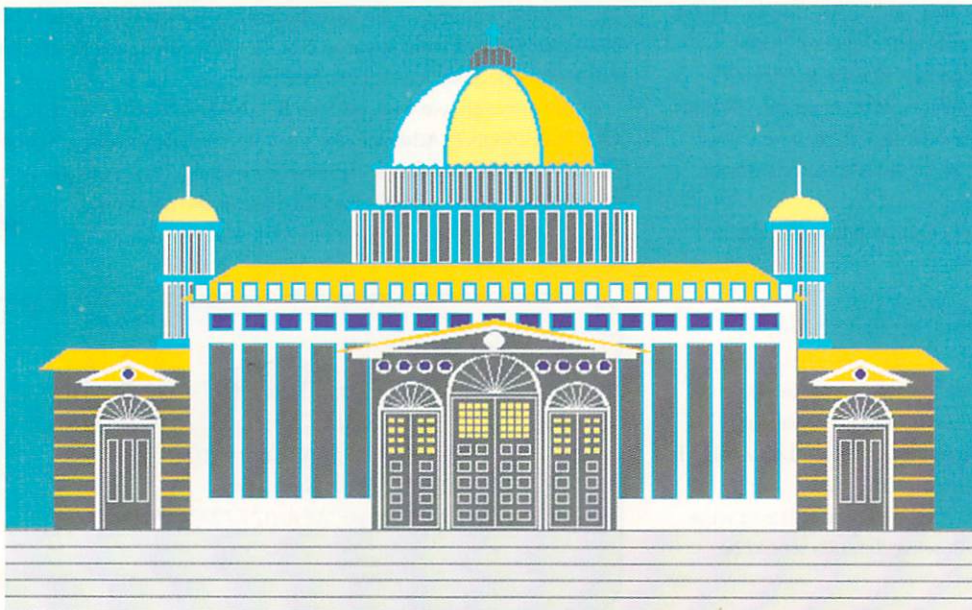


Figure 1

mental arithmetic required to visualize the resulting image is now more difficult than before. Also, changing all those numbers every time you want to render the image at a different location within the image field represents a considerable amount of work.

One of the major goals behind the invention of BASIC was to make a program easy to read and understand. For that reason TrueBASIC allows you to describe the above image differently, in a structured manner, like this:

```
DRAW Wall WITH SHIFT(13,9)
...
PICTURE Wall
  PLOT 0,0; 50,0; 50,30; 0,30; 0,0
  DRAW Window WITH SHIFT(3,4)
  DRAW Window WITH SHIFT(13,4)
END PICTURE

PICTURE Window
  PLOT 0,0; 3,0; 3,4; 0,4; 0,0
END PICTURE
```

Now the image has been divided into two elementary PICTURE units, each representing a different part of the total graphic object. The physical size of each part is now easier to visualize from the code. The wall is 50-feet wide and 30-feet high. The windows are three-feet wide and four-feet tall. More importantly, the Wall unit invokes the Window unit, placing it at different locations within the Wall by using TrueBASIC's SHIFT statement. Thus the Window is hierarchically subservient to the wall. It is now easier to see that a three-by-four foot window is located three feet to the right of the left edge of the wall, and four feet above the base.

TrueBASIC offers the feature that an arrangement of hierarchically structured, graphic units can be operated on as a single object. Thus, the main program renders the Wall at the desired location in the image field, 13 units to the right of the left edge of the screen and nine units up from the bottom, by using a single SHIFT statement. TrueBASIC takes care if all the calculations needed to translate each part of the image to its correct final location. The instruction to draw the wall treats the combination of wall and its windows as a single graphic object.

At first glance, you might think that this feature could be easily designed using any other dialect of BASIC. All you need to do is pass the location requirements of each part of your image as arguments to different subroutines. But remember, within those subroutines you have to use those values to calculate every coordinate point. In addition, the speed of rendering the image will be a lot less since you are performing translational calculations within your program, at a high level, whereas TrueBASIC performs them within the language, at the machine language level.

But there is more to TrueBASIC's structured drawing than simple translational operations. There are also scaling, shearing and rotation. Scaling allows you to change the size of an entire image. The following instruction draws a house half size:

```
DRAW House WITH SCALE(.5)
```

Shearing allows you to lean the image. The following instruction draws a house after a strong windstorm:

```
DRAW House WITH SHEAR(30)
```

Finally, an entire image can be rotated:

```
DRAW House WITH ROTATE(45)
```

These features would be significantly more difficult to design yourself. You can verify this by referring to any standard text on computer graphics, like *Mathematical Elements for Computer Graphics*, by Rogers and Adams, McGraw Hill, 1990. As explained in Chapter 2, the rotation of graphic objects requires the solution of certain matrix operations for each point in the image. TrueBASIC does all that for you automatically.

The program listing at the end of this article produces the image of Figure 2. The image is rendered by invoking the single PICTURE unit called House. In fact, the example listing invokes this same house unit three times, each time changing its location and its size.

Rotating Objects

Although you might think that the image of a house is too instructional to be useful, look at the image of Figure 3. It was created using the same code as Figure 2 except that the house was rotated and scaled differently. This could easily be the title page for a database program as the title suggests.

Rendering Speed

People who use structured CAD applications know that it takes more time for such environments to render a final image on the screen. That is not surprising considering that it is being calculated in real time, as it is being drawn. The advantage of structured drawing is that it makes your work easy to understand and maintain, saving you a lot of development time. However, for images whose final appearance is to remain fixed, like the title page of Figure 3, TrueBASIC provides a special format, called

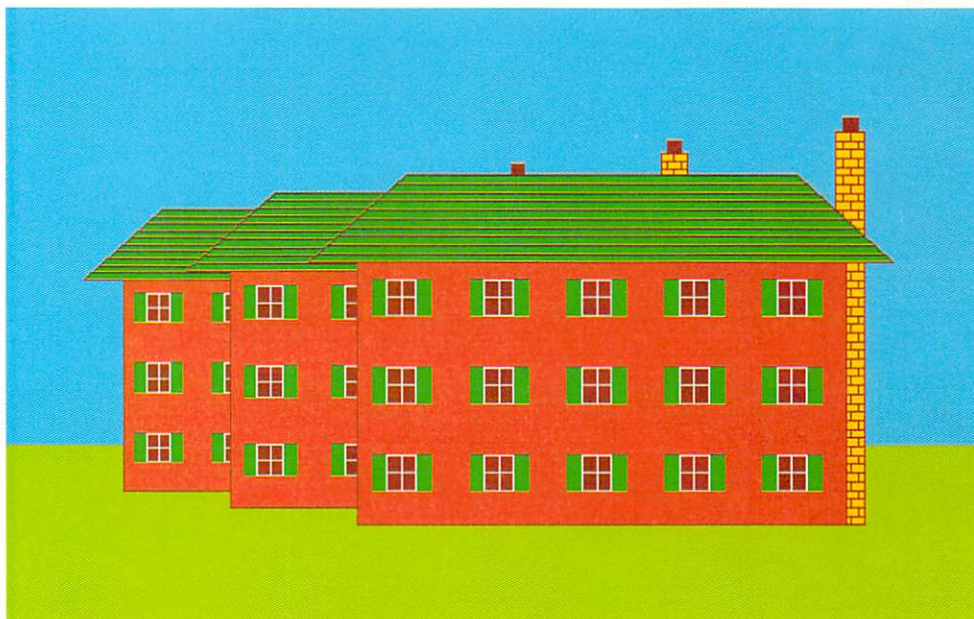


Figure Two

BOX format, from which images can be displayed very quickly. It works so fast that you can even create impressive frame animations, as long as the rendering area is about a quarter the size of the screen or less. Full size images render fast, but not quite fast enough for competitive frame animations. The intention here is not to compete with existing animation software, but to allow you to easily spruce up your BASIC programs.

In case you think that images drawn using structured techniques are plain by nature, I offer Figure 1, which was created by Mr. Guy Chamberlain of Montreal, Canada, a 75-year-old retiree and computer hobbyist. TrueBASIC, Inc. has been kind enough to make a documented hardcopy of the program that generates Figure 1, available free of charge. It also explains how to convert images to BOX format. To obtain that listing, call TrueBASIC, Inc. at (800) 872-2742, or (603) 298-8517.

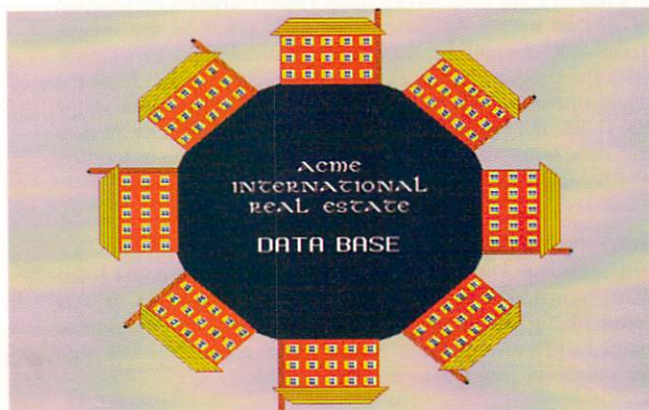


Figure Three

Listing

PROGRAM House_TRU

```
! Create and scale the screen
!
SET MODE "LACEHIGH8"
LET XLeft = 0
LET XRight = 100
LET YBottom = 0
LET YTop = 70
LET Horizon = 20
SET WINDOW XLeft, XRight, YBottom, YTop
```

CALL SelectColors

! Draw the background

```
!
SET COLOR 1
BOX AREA XLeft, XRight, YBottom, Horizon
DRAW House WITH SCALE(.8) * SHIFT(12,15)
DRAW House WITH SCALE(.9) * SHIFT(23,13)
DRAW House WITH SHIFT(36,11)
```

END

PICTURE House

```
DRAW Chimney WITH SHIFT(49,0)
DRAW Wall
DRAW Roof WITH SHIFT(-5,30)
```

END PICTURE

PICTURE Chimney

```
LET XL = 0
LET XR = 3
LET YB = 0
LET YT = 45
LET DY = 1
SET COLOR 2
PLOT AREA : XL,YB; XR,YB; XR,YT; XL,YT
SET COLOR 3
PLOT XL,YB; XR,YB; XR,YT; XL,YT; XL,YB
FOR Y = YB TO YT-1 STEP DY
  PLOT XL,Y; XR,Y
  IF MOD(Y,2) = 0 THEN
    PLOT XR/2,Y; XR/2,Y+DY
  ELSE
    PLOT XR/4,Y; XR/4,Y+DY
    PLOT 3*XR/4,Y; 3*XR/4,Y+DY
  END IF
NEXT Y
DRAW Top WITH SHIFT((XL+XR)/2,YT)
END PICTURE
```

```
PICTURE Top
LET XL = -.75
LET XR = .75
LET YB = 0
LET YT = 1.5
SET COLOR 3
PLOT AREA : XL,YB; XR,YB; XR,YT; XL,YT
END PICTURE
```

PICTURE Wall

```
LET XL = 0
LET XR = 50
LET YB = 0
LET YT = 30
SET COLOR 5
PLOT AREA : XL,YB; XR,YB; XR,YT; XL,YT
SET COLOR 3
PLOT XL,YB; XR,YB; XR,YT; XL,YT; XL,YB
FOR Y = YB+4 TO YT STEP YT/3
  FOR X = XL+3 TO XR STEP 10
    DRAW Window WITH SHIFT(X,Y)
  NEXT X
NEXT Y
END PICTURE
```

PICTURE Window

```
LET XL = 0
LET XR = 3
LET YB = 0
LET YT = 4
SET COLOR 3
PLOT AREA : XL,YB; XR,YB; XR,YT; XL,YT
DRAW Shutter WITH SHIFT(XL-1.5,0)
DRAW Shutter WITH SHIFT(XR,0)
SET COLOR 7
PLOT XL,YB; XR,YB; XR,YT; XL,YT; XL,YB
PLOT (XL+XR)/2,YB; (XL+XR)/2,YT
PLOT XL,(YB+YT)/2; XR,(YB+YT)/2
END PICTURE
```

PICTURE Shutter

```
LET XL = 0
LET XR = 1.5
LET YB = 0
LET YT = 4
SET COLOR 4
PLOT AREA : XL,YB; XR,YB; XR,YT; XL,YT
END PICTURE
```

PICTURE Roof

```
LET XLB = 0
LET XRB = 60
LET XLT = 10
LET XRT = 50
LET YB = 0
LET YT = 10
LET DX = XLT/YT
LET DY = 1
SET COLOR 4
PLOT AREA : XLB,YB; XRB,YB; XRT,YT; XLT,YT
SET COLOR 3
PLOT XLB,YB; XLT,YT
PLOT XRB,YB; XRT,YT
FOR Y = 0 TO YT STEP DY
  PLOT XLB+DX*Y,Y; XRB-DX*Y,Y
NEXT Y
END PICTURE
```

SUB SelectColors

```
SET COLOR MIX(0) 8/15, 12/15, 14/15
SET COLOR MIX(1) 7/15, 12/15, 0/15
SET COLOR MIX(2) 14/15, 11/15, 0/15
SET COLOR MIX(3) 6/15, 2/15, 0/15
SET COLOR MIX(4) 3/15, 15/15, 0/15
SET COLOR MIX(5) 14/15, 5/15, 0/15
SET COLOR MIX(6) 0/15, 15/15, 15/15
SET COLOR MIX(7) 15/15, 15/15, 15/15
END SUB
```

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HOT TIPS

SimAnt (Maxis)

One of the features in SimAnt is the ability to switch from one ant to another by picking the ant to trade bodies with. You can also pick the spider to switch with. The abilities of the spider are to hunt for prey or chase and eat any ant you pick. If you have recruited any followers, they will also follow the spider wherever you send him. Note that you can not recruit while in the spider's body but must recruit prior to picking him. One word of warning, if the spider dies with you running him, you are not reborn until a special event, such as the lawn mower, would have normally killed you.

(Courtesy of John H. Nichols, Jr., Rockford, IL)

Railroad Tycoon (Micropose)

After you have entered the code for the write protection, press shift-4. This will give you all the money you should ever need. Be careful—do not go over 32 million dollars or you will go into negative numbers.

(Courtesy of Mike Mogolis, Baltimore, MD)

SimCity (Maxis)

Keep your taxes at 0 the whole year until December, then raise them to 20%. In January, drop them down to 0 again. By keeping your taxes at zero, you keep your people happy and more people move to your city. When you raise your taxes in December for one month, you should make enough money to spend on building your city.

(Courtesy of Mike Mogolis, Baltimore, MD)

Civilization (Micropose)

In Civilization, it is possible to use a caravan to help in the construction of any edifice your cities may be producing, not just a World Wonder as the manual states. In order to accomplish this, alter a city's production from whatever

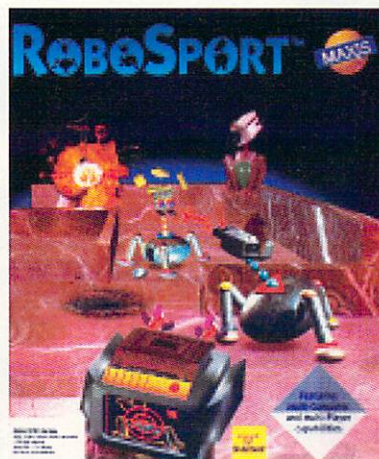
may be in progress to a World Wonder, then guide the caravan into the city. When the game asks what you would like to do with your caravan, select help build world wonder. Then at your next opportunity, return the city's production to the previously desired edifice. You will now have a substantial part of your edifice completed.

(Courtesy of Eric Black, Orient, ME)

Congratulations

Mike is the winner of RoboSport, the game shown in last issue's column. Congratulations, Mike!

Hot Tips will be taking a little vacation over the next few months. We'd like to thank everyone who has shared their game-playing secrets with us!



A copy of RoboSport from Maxis will be awarded to Mike Mogolis.

DIVERSIONS

Castle of Dr. Brain

by Kim Schaffer

How many ways are there to increase your brainpower? Well, *Castle of Dr. Brain* has more ways than you can possibly think about. Language, mathematics, science, and computing skills are all put to the test to get to Dr. Brain's laboratory. Does that mean it's a boring battery of bureaucratic buffoonery. Not! It's as well thought out as a Spock thesis.

Let me say right up front, extra memory, and an accelerator card are highly recommended. The difference is as night and day. Without the accelerator, the music and animation drag down the game to a barely tolerable level. If you have a 1MB machine, you might as well run it off floppies; you won't notice the difference. If you have extra memory, Dr. Brain will use it.

So if you have all this computing power, how is *Castle of Dr. Brain*? I was totally unprepared for the opening. Fantastic. When the opening ended, I was worried there would be nothing left to do. But take heart, there's plenty of adventure. Start by trying to enter the castle.

After looking all over the entrance and getting various tongue-in-cheek comments, do the obvious: ring the doorbell. After playing close encounters of the brainy kind, you are admitted into the castle, where bad puns are the rule and mind twisters abound. I won't go into all the adventures, but suffice it to say, the puzzles will keep you occupied.

The first level is math and time puzzles, with enough other things to keep your interest, if you don't need the concentration. After going through a 3-D maze, it's time for computer games. Can you do binary conversion, guide robots through mazes, and piece

together instructions to assemble a circuit? If so, it's on to the next level, through another 3-D elevator, of course.

Language games are next: word search, and then an acrostic puzzle to figure out the theme; on to other types of puzzles, tangram and jigsaw. After assembling the jigsaw, the puzzle opens to the next level. Still keeping with languages are the coded messages and hangman, and then a quick game of mastermind. Take another elevator ride to the planetarium where you identify constellations, tag planets, and match creatures to their home planets. Then it's time to figure out if you were paying attention. Match the game with the skills being tested. Finally, decipher the coded instructions before Dr. Brain takes you on as an assistant.

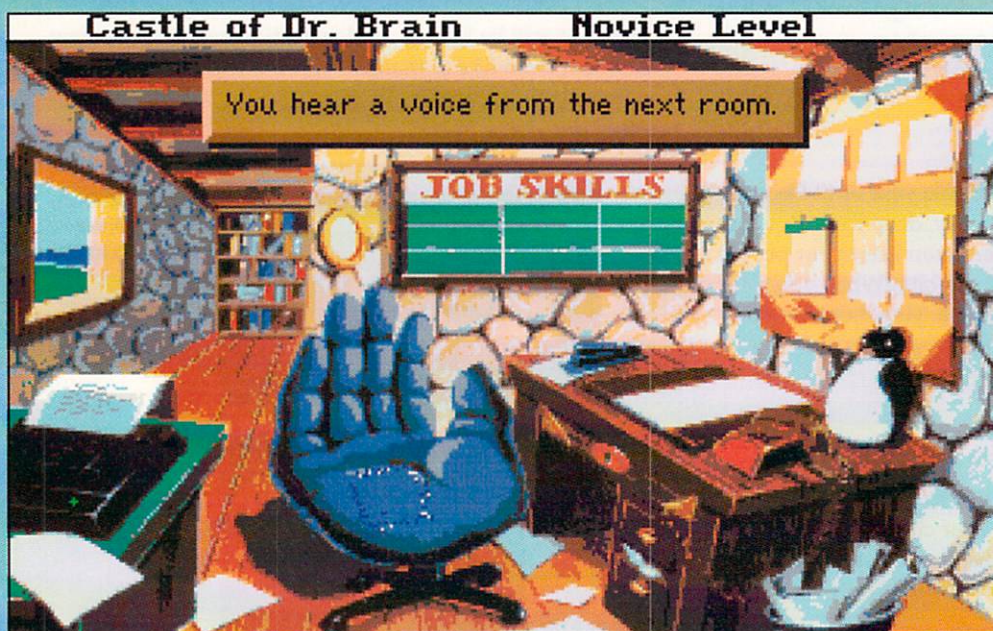
The finishing credits are totally in character with this fine piece of work. A quick peek into Dr. Brain's multimedia lab where you get a glimpse of the people who helped bring you

Castle of Dr. Brain, and just to keep you interested, maybe a little hint of the next Dr. Brain. At the end of the game you can start over, redo your favorite parts, or quit the game. Do it over again with a different level of difficulty and it's still fun.

I like the game because it doesn't take a lifetime to complete. You can use the novice setting and work through it in a long evening. Or save the game and pick it up later. If you want to increase difficulty, save the game often so you can get to other things.

I have never seen a set of puzzles so well integrated. Animation and sound are integral parts to several of the puzzles. Each puzzle stands alone and yet is a part of the overall game. *Castle of Dr. Brain* requires a bare minimum of 1MB of memory and either a hard drive or two floppy drives. I found that while still interesting, *Castle of Dr. Brain* can become tedious, and for some reason louder, with the minimum configuration. However, when I installed it on a system with an 030 accelerator with 4MB of RAM and a hard drive, I had no problems during play.

No joystick is needed, but you might keep a pencil and paper handy. One short and easy-to-read table is all the copy protection you have to fight with. The upbeat music, detailed artwork, pleasing animation, and variety of puzzles give you more than any other entertainment I've seen. It's probably even educational, but then it couldn't be good for you if it were, now could it?



Megafortress

By Jeff James

Inspired by Dale Brown's hi-tech novel *Flight of the Old Dog*, *Megafortress* (\$59.95) puts the player behind the controls of a stealth bomber bristling with powerful weapons and advanced electronics. Your mission is a hazardous one: after choosing one of three areas of armed conflict, including the Persian Gulf, you must use firepower and stealth to accomplish your objectives.

Unlike most other flight simulators that cast the player as the sole pilot of a single-seat aircraft, your plane in *Megafortress* is big—very big. Your aircraft is the lumbering EB-52H Stratofortress, a hypothetical bomber packed with missiles, bombs, chaff, flares, jammers, and scores of other hi-tech goodies, all wrapped in several coats of radar-absorptive materials. Controlling all of this military hardware is more than one person can handle, so *Megafortress* simulates a five-man crew. In addition to a pilot and co-pilot, a navigator, a weapons officer, and an electronic warfare officer are present. Each of these individuals is represented by separate stations that deal with that person's area of expertise. The pilot flies the plane; the navigator sets the course and establishes waypoints; the co-pilot assists the pilot and serves as in-flight engineer; the electronic warfare officer operates the chaff, flares, and other defensive features of the plane, while the weapons officer fires the plane's weapons. Switching between these stations is accomplished by hitting the appropriate function key (F1-F5) or by left-clicking on the correct station indicator in the lower left edge of the screen.

Flight simulator aficionados accustomed to hopping into their plane of choice, blasting open the throttles and roaring off into the sky are in for a surprise with

Megafortress. Simply getting your EB-52H off the ground involves over a dozen individual steps: select the co-pilot station, turn on the batteries, select the pilot station, engage the parking brake, extend flaps, flip the taxi/land switch to land, engage all of the engines, ignite the engines, increase engine power to 100%, release parking brake, pull back at 200 knots, raise gear, retract flaps, climb a few thousand feet, then reduce power. Nearly every aspect of the game involves a lengthy sequence of actions, from dropping bombs, evading SAMs, and landing the plane.

Three primary areas of conflict are included. Players can fly training missions in the USAF

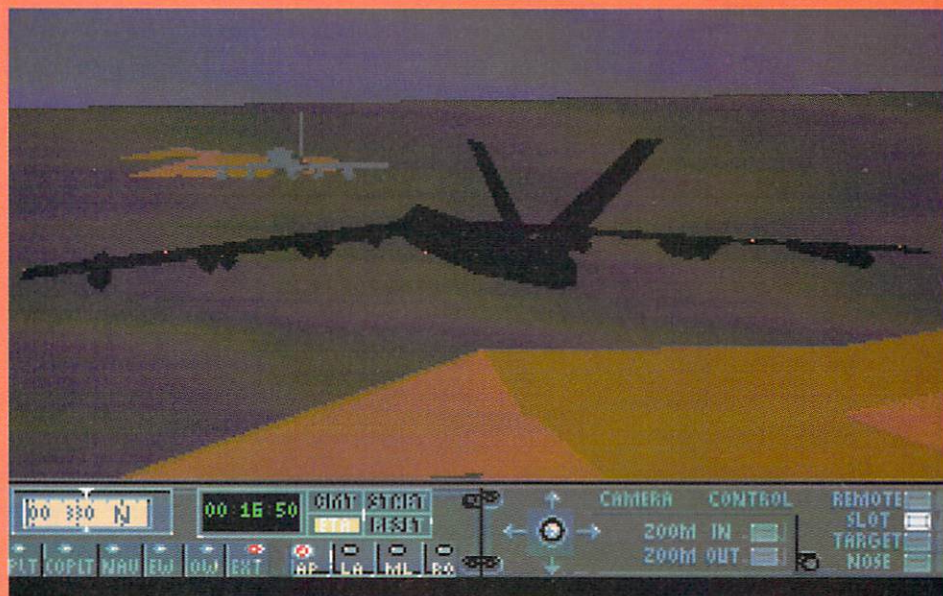
runway munitions, and standard free-fall bombs. Defensive weaponry consists of chaff, flares, jamming pods, and even air mines launched from the tail of the bomber to destroy pursuing enemy aircraft. You'll need all of those defensive countermeasures, for the computer has a fearsome array of equipment to throw at you. Ranging from supersonic Russian MiGs to shoulder-launched SAMs, the computer will keep you on your toes and on the lookout.

Making it through all of those difficult missions while managing the often bewildering array of plane controls is made easier by the excellent 100-page

DIVERSIONS

installation instructions, the Amiga version of *Megafortress* doesn't include a paperback copy of Dale Brown's novel upon which the game is based and which was included in the MS-DOS version.

Megafortress requires 1MB of RAM and Kickstart 1.3 or higher. An icon-driven hard-drive installation routine is included, and *Megafortress* operates fine on accelerated



"Red Flag" area of Nevada, and then graduate to missions in the Persian Gulf War. Finally, players can fly the missions flown in Brown's novel, attacking heavily defended military installations along the eastern edge of the former Soviet Union. Much like the F-117A Stealth Fighter, the hypothetical EB-52H flies its missions only under the cover of darkness.

Dozens of different weapon types are available to take out your targets, including heat-seeking air-to-air missiles, laser-guided bombs, anti-radar missiles, anti-ship missiles,

manual. An included tutorial section quickly gets players airborne and en route to the first target, while comprehensive reference sections include information on all aspects of your deadly stealth bomber. A separate booklet contains flight plans for all the missions included in the Red Flag and Persian Gulf mission sets, listing way points, mission targets, and other important items. A small reference manual is also included; unfortunately, all the installation instructions are for the MS-DOS version. In addition to the lack of Amiga-specific

machines with 68020/030 processors. Gameplay is a little pokey on an unaccelerated machine.

In the final analysis, *Megafortress* has a lot going for it. If you're into detail, *Megafortress* should be a dream come true. If you'd rather blow things up and not have to worry about priming engines or turning on navigation lights, you should look elsewhere for your simulated target-busting enjoyment.

Space 1889

by Graham Kinsey

Space 1889 from Paragon Software is a computer adaptation of the role-playing game of the same name. *Space 1889*'s novelty comes from its unique merging of space travel into a setting in England in the Victorian era, or late 19th century. While the starting scenario of this game deals with a discovery of King Tut's tomb in Egypt, exploring the other inner planets of the solar system eventually becomes the main focus. To start the game, you may either choose the provided party of five pre-rolled adventures or create your own. Creating your own character involves much less emphasis on dice-rolling than in a D & D-style

game. Choosing your character's profession is paramount to success since this largely determines which of the 24 skills your character possesses and to what degree. Gender also plays an important role for remember that this is the Victorian era, although the game does provide for many possibilities for female adventurers in a different way.

Once the games begin, your party is located in a museum in London when they receive news of the discovery of King Tut's tomb. From this point on, you can really do anything you want; this adventure is very open-ended. Therefore, it is all-too easy to become sidetracked, and many people may become frustrated with this game since they often don't know what to do next, despite all the information you've collected. If you haven't bothered to write down everything you've been told by the various people you meet in the game, you'll be completely lost. This open-endedness means most novice adventurers will end up baffled by this game.

The graphics in the game show a definite case of "portitis."

The sound effects and music are much better, but there really isn't much sound to this game at all. Clearly the best portion of this game is the excellent manual, which covers over 80 pages, and not only covers the mechanics of the game itself but also covers, in detail, life in the Victorian era. *Space 1889* is hard-drive installable, runs on accelerated Amigas, runs under Workbench 2.0, and uses manual copy-protection. The only form of bug I could find was that occasionally when I moved from scene to scene, the part would appear inside a wall and could not be moved. Reading the manual for this game certainly increased my interest in *Space 1889*, but the game itself didn't keep it. While I don't have anything bad to say about *Space 1889* other than the graphics, this may be an example of a different type of "portitis": moving a role-playing game to a computer screen without paying much attention to how the game plays on the computer instead of by the rule books.

SPACE QUEST REVISITED

By Rick Broida

Sierra On-Line's resurrection of *Space Quest I* looks great, sounds great, plays great, and runs like a cow.

Keeping in line with their recent revamping of older IBM titles, Sierra has replaced the squarish, 16-color, command-line-interface version of *Space Quest* with a lush, 32-color, icon-driven edition that will please first-time players and inspire veterans to have another look.

Roger Wilco, swashbuckling janitor of the starship *Arcada* and unwitting intergalactic hero, stumbles out of his broom closet one afternoon to discover that his employer's ship has been captured and his shipmates ventilated. Upon further inspection, he learns that the ship's revolutionary Star Generator has been stolen. Even worse, the ship has been set to self-destruct in just 30 minutes. The scene is set: Roger needs to get his hind off the spacecraft and find the space cretin who made off with the Star Generator.

Various deadly perils block the way. *Space Quest* is essentially a series of puzzles and mini-mysteries, and to progress in the game you must guide Roger through them. For example, it is impossible to escape the *Arcada* without first collecting a door-key card that resides in a fallen shipmate's pocket. That's easy enough, but later in the game, you'll be faced with a giant sewer monster hell-bent on swallowing you; only the correct action will allow you to pass. Some of the puzzles require meticulous thought, while others are simple



impediments that basic trial and error will surpass. The key to successful completion of the game is careful examination of each room or scene, and collection of every object that's not bolted down.

Like all of Sierra's latest Amiga titles, *Space Quest* features 32-color graphics—a significant improvement over earlier games. Roger Wilco has never looked better, having lost his blocky physique and gained round, human-like features. Sound has also been enhanced, as partially evidenced by the rich digitized voice that announces, "Thirty minutes until detonation," at the start of the game. Virtually every moving object has a unique sound effect; my favorite is the *Arcade's* doors, which slide open and shut with the reminiscent shhhht of the *Enterprise's* doors on the old "Star Trek."

The new *Space Quest* has done away with typed-in commands, giving way to a totally icon-driven interface. Using the mouse buttons and/or a pop-up menu that appears when you move your pointer to the top of the screen, you can select the basic options: walk, take/do, look, taste, smell, and speak. The menu also provides a look at your inventory of collected objects, plus the load/save/restore-game features and speed and volume modifiers.

This mouse-based interface definitely changes the feel of *Space Quest*, but it cuts down on a lot of command confusion and makes the game flow more smoothly. Moreover, it's simple to learn.

Space Quest has a lot going for it, but it suffers from one major debilitating flaw: speed. The game runs far too slowly on a standard Amiga 500 or 2000. To be fair, the information sticker on the game box recommends a faster Amiga. On many screens Roger is just plain

sluggish, and he slows to a crawl whenever other animated objects appear. I abandoned my 500 and tried the game on a 68030-based 2500, where it improved dramatically. If your Amiga has no form of acceleration and uses the standard 68000 processor, *Space Quest I* will provide more exasperation than entertainment. And if you haven't got a hard drive, forget it. Although the game's five disks don't need to be swapped very often, they are innately slow and retard the game even more.

It's too bad that a game so rich in story, humor, and playability is so hampered by something as simple as speed. Game creators like Lucasfilm and Psygnosis seem to have no trouble maintaining sharp graphics and tolerable speeds on low-end Amigas. Sierra, for all their commendable efforts of late to improve their titles for the Amiga platform, must resolve the speed issue.

One other complaint: roughly 50 percent of the time, my Amiga 500 crashed upon exiting the game. So did the 2500. Problems like this should never leave the programmers' workbenches.

All told, the new version of *Space Quest I* is an excellent game. The graphics are crisp and colorful, the sound has been strikingly enhanced, the icon-based interface works beautifully, and the story is wonderfully zany. It's tough not to like this game, unless you're forced to play it on a stock Amiga 500 or 2000. I applaud Sierra for continuing to support the Amiga, but I strongly suggest that their next quest be for speed.

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Pinball Dreams

by Graham Kinsey

Pinball Dreams produced by Digital Illusions and distributed by 21st Century Entertainment in the U.K. is the latest attempt to bring the pinball experience to the Amiga. *Pinball Dreams*, like most pinball games for the Amiga, is simply a package of one or more pre-designed pinball machines and *not* a true pinball construction set like the famous *Deluxe Pinball Construction Set* from Electronics Arts and *Power Pinball* from KarmaSoft, which is still the only pinball construction set available for the Amiga. What makes *Pinball Dreams* so special is in part the stunning graphics and sounds that this game features.

The *Pinball Dreams* package is comprised of four different pinball tables, which

can be chosen from the main menu. Each machine supports from one to eight players, and keeps a short list of high scores which can be saved to disk. As for the machines themselves, once you look past the audio/visual aspects and down to what really counts—the machine's logic and layout—you'll find these four machines have much to offer! The logic found in the *Pinball Dreams* machines includes accumulating jackpots for all machines, extra balls, mystery spins, bonuses, score and double bonus features, double scores, optional lit-lane changing using the flippers, timed awards, and much more. The only obvious thing missing here is multiball options, although on the *Nightmare* table ball-locking is used. As for the general physical layout of the machines, only the *Ignition* machine keeps the ball on a single plane. The *Nightmare* and *Steel Wheel* machines both sport

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wire tracks above the base playfield, and Boom Box uses multiple levels to a limited extent. Curiously, it is apparent to pinball fans that the Nightmare table is a simplified clone of the popular Terminator 2 machine now found in most arcades today. Naturally, Pinball Dreams supports tilting of a machine using the spacebar as well as a tilt penalty when the machine is moved too much.

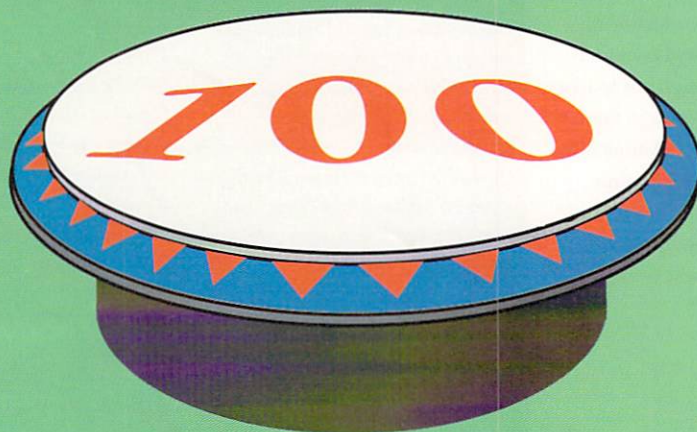
As I mentioned before, the graphics and sound are top-notch. All machines sport

numerous machine and human-voice digitized samples, as well as music scores before, during, and after play. You may even turn off the music score during play. None of this comes as a surprise once you learn that the programmers who created this game are also members of The Silents, one of the most respected "Euro-Demo" coding groups. It is very important to mention how this game is displayed on screen. Unlike Power Pinball, where the machines simply occupy the left half of the screen,

each machine in Pinball Dreams covers over two whole 320x256 Amiga screens. During play the screen is simply scrolled to keep the ball and the surrounding playfield area in view at all times. Not only is this a very ingenious method that simulates how you actually play a real pinball machine, but more importantly the scrolling in Pinball Dreams is perfectly smooth and seamless. This technique allows for the huge playfields that make all detailed graphics, in particular the

detailed lettering, playfield logic, and layout possible to use.

Pinball Dreams will run under Workbench 2.0. While it will work under accelerated Amigas, the sound effects may mess up slightly, but not enough to really detract from the game. Disk copy-protection is used, and is a problem since this in effect prevents you from saving the high scores to disk two. One final note: I am reviewing the PAL version of Pinball Dreams; however, the game will run in NTSC mode if you do not have an Agnus chip that supports switching screen modes. The only problems with running this game in NTSC mode are that the flippers won't be entirely visible, and the sound effects and music will all be played at a faster-than-intended rate. While it's true that these simulations don't yet come close to today's hottest machines in the arcades like The Addams Family and Terminator 2, they aren't that far off. I only wish now that Digital Illusions would create a pinball construction set that would allow me to create machines that are even half as good as these are!



product: AEHD driver
re: experienced users
source: EMail

I received an EMail letter from Gracia Littauer on CompuServe regarding the AEHD high density driver offered by Mr. Woodbury in the 7.9 issue. As of this writing, I haven't heard from anyone who has purchased the driver. If you have experience with this driver, please let me know. I'll pass it along to our other readers.

product: MicroEmacs
re: customizing keys
source: CompuServe

Also from CompuServe this month, I received a letter from Kent Shafer regarding MicroEmacs v2.1. He writes, "There are two problems with version 2.1 of MicroEmacs, the version that comes with WorkBench 2.0. Both involve the Emacs_pro file which must be created in order to customize the actions performed by the function and numeric keypad keys.

"1. The manual tells you to use F1, F2, etc. for the function keys. For example, you would use:

"Set-Key F1 <string> to have the F1 key automatically type a given string of characters. However, the manual doesn't say how to designate the numeric keypad keys. After some trial and error, I discovered that K1, K2, Kx, etc. do the trick. HELP, not surprisingly, handles the Help key, and KE takes care of the numeric keypad Enter key.

"2. The second problem is that there seems to be no way to include ^J in the Emacs_pro file. This is the Indent command from the Edit menu—the command that starts a new line and indents it the same amount as the previous line, an essential feature for C programmers. Oddly, when you select Set-key from the Extras menu, you can include ^J with no problem, but

you can't do the same thing in the Emacs_pro file."

Kent would like to know if anyone has a solution to this problem. If you can help, let me know, and I'll pass the information along.

product: Professional Page
re: HP compatibility
source: EMail

William Sorensen sent EMail with a workaround to Mark Goenner's problem mentioned in "Bug Bytes," 7.8. The problem regards Professional Page 3.0 and the HP LaserJet. He writes that the fix has only been tested with a DeskJet+, but the problem seems to be the same. "Go in to Commodore's Printer Prefs program and change printer paper size to U.S. Legal. Click on Use or Save. Load Pro Page and your document and select Output Dot Matrix. Change the Output Page Size Y value to 11. Hit return and make sure Pro Page makes the 11 into 11.000, as it doesn't always." [Note: The way to make sure this happens is to press ENTER after changing the number. If you just exit the requester after changing the number, the field reverts to the previously entered data.] Once that change has been made, simply print the page. It should print down to the last half inch.

product: Pro Page Genies
re: shareware
source: mail

Also regarding Mark Goenner's problem, Don Cox of Middlesbrough, England, sent a disk of Pro Page Genies that he has written. The shareware disk is filled with other various Pro Page tools. One of the Genies that he wrote uses the shareware Postscript interpreter called Post. He also wrote a variant Genie called PostLJ that has a requester which allows the selection of several options. He cautions that he has not

bug bytes

by John Steiner

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tested the LaserJet version of his Genie as he doesn't have a LaserJet printer, but he comments that it should be pretty close to working properly. He notes that you must have the copy of Post already installed and working on your system to use his PostLJ Genie. Post is not included on his shareware disk. He also notes that Post does print most Encapsulated Postscript files if they do not contain binary data. Also Post does not handle the new Professional Draw Gradient files.

Though I normally don't offer to forward copies of shareware disks to readers because of the time it takes me to copy and mail disks, I am making an exception in this case since Mr. Cox lives "across the pond." If you wish to receive a copy of his shareware disk, please send a disk that has already been formatted, as doing so gives some protection from sending a bad disk, and a self-addressed envelope or disk mailer with enough postage to send a disk by return mail. Please address the mailing to:

Genie Disk
c/o John Steiner
Box 683
West Fargo, ND 58078

product: Ronin's Hurricane
accelerator
re: workaround
source: EMail

Paul Tibbals sent EMail with some notes regarding the installation of WB 2.04 on my A2000 with

Ronin's Hurricane accelerator. He writes, "I have gotten it to work with the new WB fairly compatibly, with a couple of caveats. My system is an A2000, motherboard revision 4.2, with the Multistart II ROM switcher. The Hurricane is a specially tweaked one with 33MHz 68030, 20MHz 68881, and 4MB of 32-bit memory. Under WB 1.3 I had only to run the supplied Hurricaneconfig program, before Setpatch was run, to have a very compatible machine with performance often exceeding any of Commodore's. With WB 2.04, I have gotten things to work with the following modification to s/startup-sequence. The first commands are added in:

```
failat 11 hurricaneconfig  
-a -r failat 10
```

"The failat pair allows the boot to continue if I have switched off the accelerator for game compatibility. The -a -r options tell the system to start by looking for the 32-bit memory, but not to add it, only to enable the 68030 and run it without data cache mode.

"Then after the system has booted to the WB 2.04 partition, the user-startup file contains the statements,

```
c:addmem32 c:cpu fastROM
```

"Addmem32 is the Ronin command, distributed with the last revision of their software, that tells the system to add the 32-bit memory to the system. CPU is the 2.0 replacement for Dave Haynie's SetCPU, and the fastROM feature



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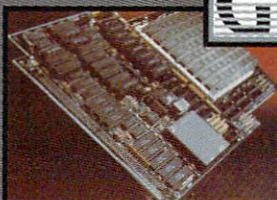
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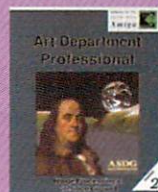


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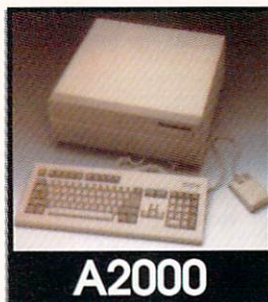
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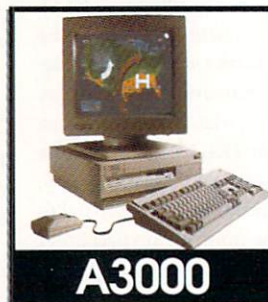
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maps the 512K Kickstart to 32-bit RAM, greatly improving Workbench response. If the Hurricaneconfig command without switches is used, only 256K of Kickstart is mapped to 32-bit memory.

"Unfortunately, I haven't found a way to enable the 68030 data cache while in WB 2.04 without an instantaneous crash. This limits the performance to slightly worse than an A2500/A3000."

product: A2286 Bridgeboard
re: timing conflicts
source: mail

Mr. Tibbals also writes about a problem with the A2286 Bridgeboard he is using on an IBM based network. "I use the Commodore A2286 Bridgeboard on a stock A2000. To hook it up to the IBM network, we had previously used an Arcnet card in an IBM slot with good success, once the interrupts were changed to IRQ 5 and memory address to 2e0. However, when the network was recently changed over to an AT&T Ethernet setup, things quit working. I found that only one of the IBM slots allowed the new network card to operate, the second from the last. The slots, in order, are now occupied by the ATBB, a Plus hard card, the network card, and a VGA card. The network card interrupt and memory addresses were similar enough to be found with a little experimentation. The new card still appears to have timing conflicts, however, and will operate only for a period ranging from hours to minutes before losing contact with the network and necessitating a full Amiga reboot. I will be dropping the Bridgeboard and Amiga in this application because of these problems. Commodore refuses to offer any help, stating that dealers support the Bridgeboards. But without a similar network, my dealer is unable to diagnose the problems." If you have any suggestions for Mr. Tibbals, let me know; I'll pass them along.

product: AMaxx II+
re: bugs
source: mail

Included with a letter to the editor, Jonas Green of Cambridge, MA, included several bug reports. He writes, "I am using ReadySoft's AMaxx II+, the Internal Card version of the Mac Emulator. Other key elements of my system are the EHB Denise Chip (not ECS) and a MicroWay flickerFixer. Under both AMaxx Software 2.50 and 2.51:

"1. Sometimes the border color is black, and sometimes it is white, despite the following quote from the AMaxx 2.50 readme file: *A-Max II users who don't use Commodore's Extended Chip Set will notice that the border color is now set to black. Thanks to Chris Brenner who worked out how to do this with little memory overhead.*

"2. Apple's Diskcopying program DiskCopy 4.2 returns a Diskerror -17, and ejects the disk each time it starts to make a copy. It does, however, read disks, and load image files."

If you have any solutions to Mr. Green's bug reports, let me know; I'll pass them along.

product: CBM Installer
re: "shift-click" not recognized
source: EMail

Greg Bastow sent EMail regarding a problem with CBM's Installer program. He writes, "I have purchased many products that use CBM's Installer Program and find this a great benefit for standardizing installation procedures. Unfortunately I have gone back to many of the companies about problems with this program. The Program does not understand the standard shift-click method of telling it where to install the program to. Most of the companies say that it's a fault of the Installer and they abide by all the guidelines set forth by CBM."

He wonders if there is some way to make the program understand the shift-click convention as

it would make selection of the desired device or drawer much simpler. If you have any comments or workarounds, let me know.

product: Supra 2400 modem
re: VAX communication protocol
source: Internet

Internet Mail brought a letter from a Mr. or Ms. Atkinson. The question asked regards the remote connection of an Amiga to a VAX system. He, or she, asks, "Is it possible to access the vax using a Supra 2400 modem, or would it be necessary to use a PC board? Also, what [communications] software would you recommend?"

When I first received the letter, I was not sure if any specialized software would be necessary; however, I have since visited with a student who uses his Amiga system regularly to communicate with a Vax 780 system. Jeff Schoenack of Fargo, ND, commented that he uses a shareware terminal program called VLT; however, he thinks that almost any Amiga terminal program should work satisfactorily. I use Baud Bandit to contact my local college mainframe system as well, and I find it to be an excellent commercial terminal program that contains many features that shareware programs don't often include. Jeff noted that he or she should contact the computer professionals at the college or university about the appropriate protocol necessary—the number of stop bits, parity, and other specific communications configurations.

product: HDBackup
re: system lockup
source: mail

Charles Lences of Parsippany, NJ, writes to respond to Paul Gittings problem with HDBackup and his SCSI tape drive mentioned in the "Bug Bytes," 7.9. Charles' system is an Amiga 500 with a GVP A500HD+8 including

a 52MB Quantum hard drive and a Tandberg 3600 tape drive. He notes that HDBackup appears to do the backup to tape, but when he attempts a partial or complete restore, the system locks up. The same thing happens when he attempts to restore to a floppy. He gave up and bought AmiBack, which he notes performs very well, and is much faster than HDBackup during the backup process.

service: Omega BBS
re: change in numbers
source: EMail

Rinaldo Petterino sent EMail to note that the information I included in the September issue about his Omega BBS is no longer correct. He now has two BBS lines and the correct numbers are

OMEGA BBS
312-573-1989

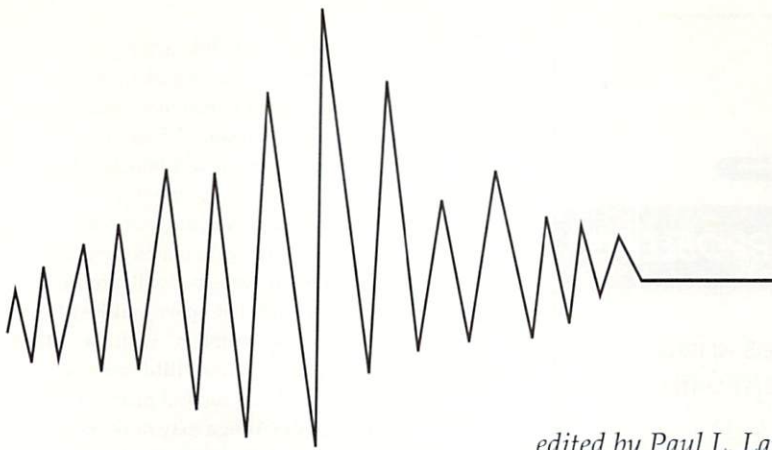
USR DUAL
312-573-1657
V.32bis

That's all for this month. If you have any workarounds or bugs to report, or if you know of any upgrades to commercial software, you may notify me by writing to:

John Steiner
c/o Amazing Computing
Box 2140
Fall River, MA 02722

...or leave EMail to
John Steiner on Portal 73075,1735 on CompuServe.
Internet mail can be sent to
John_Steiner@cup.portal.com.
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•AC•



Feedback

edited by Paul L. Larrivée

This month's letters include a notice from customer support, an expression of gratitude from a user who received a call initiated by a developer, a defense of the Amiga as a unique machine, and a suggestion to consider more than one brand when shopping for a laser printer.

Revisions Available from EA

In response to Doug Scholfield's letter (AC, V7.9, "Feedback," p.90) regarding compatibility issues with AmigaDOS 2.04, we are pleased to inform you that revised versions of the following programs are now available:

Title	Version	Release Date
DeluxePaint IV	4.1	5/92
DeluxeVideo III	1.07	6/91
DMCS	1.02	5/91

These versions now fully support Workbench 2.0 and the Amiga 3000. The revisions also correct the difficulties experienced with some hard drive controllers. Our new version of DeluxePaint IV offers many new features which take advantage of the 2.0 operating system such as scalable font support.

For information on how to receive these revisions, please write to our customer support department at the address below or call (415) 527-2787.

Walter Ianneo
Electronic Arts Customer Support
P.O. Box 7578
San Mateo, CA 94403-7578

For additional encouraging news, see the next letter from Gregg Scholfield, who started this discussion concerning 2.04 compatibility.—PLL

They Called Him!

Good things have been happening since you published my letter in the V7.9 "Feedback" column. I want to share the news with the Amiga community. Recall that I wrote of some incompatibility problems with my A2000 and AmigaDOS 2.04.

I received my AC 7.9 issue on Thursday. Friday morning I got a call from Bart Caplin, tech support at Interactive Video Systems (IVS). Did you just read what I wrote? *They* called me—the day after I had received my copy of AC!

Bart Caplin asked for the revision number printed on the TrumpCard in my 2000, so that he could express-ship a new ROM, diskette, and manual to me. Two days later, after giving IVS \$23, I received the package.

I followed the instructions for installing the new ROM and getting the hard drive set up with the new controller software. I had a couple of problems installing the new software, but one phone call to Bart Caplin and his guru, Mike, solved the problems.

Let me share the tech-tips with those of you who own an IVS TrumpCard. The instructions say that you can upgrade the ROM without losing data on your hard drive. I tried that and it works—sort of—but the system would occasionally freeze when accessing the hard drive. I ended by formatting the hard drive with the new

ROM TCUtils software and then restoring from a backup. Everything works fine now, with no problems.

Here's the tip: IVS controller software always reads the Rigid Disk Blocks on the hard disk when the TrumpCard jumper is set to autoboot 1.3. You must move the jumper to boot 1.2 so the IVS controller software will ignore the Rigid Disk Blocks. Boot the TCUtils diskette, format the hard drive, and move the jumper back to autoboot 1.3. If you don't perform these steps, you'll never successfully format the hard drive. This little jumper trick is not documented anywhere, but when you have terrific support people at IVS, they won't let you fail.

By the way, reaching either one of these knowledgeable gentlemen at IVS is a breeze! They are very willing to answer your questions. I was first surprised and then pleased to discover this. Thank you both very much, Bart and Mike.

Gregg Scholfield
Dayton, NV

We're glad, too, Gregg, that by publishing your letter in AC, we were able to effect a swift and happy resolution to your problem.—PLL

HSPascal in 15 Minutes!

I want to share my experience with HSoft with you. I teach advanced computer science at a New York City high school.

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After a long wait because of out-of-stock dealers, we finally received HiSoft's excellent HSPascal compiler, and installed it in our Amiga 3000.

The first project for the class required the use of some of the Amiga's mathtrans.library functions, but I had trouble accessing them. I then faxed a detailed question to HiSoft one afternoon and followed up with a phone call early the next morning. HiSoft had already read my fax and assured me that they would read it as soon as they could. Being a small company, they needed a little time. A little time indeed! Only 15 minutes later, I received a detailed, two-page fax complete with a description of how HSPascal interfaces with Amiga libraries, sample code, and a few comments following up other questions of mine!

Thanks to Keith Wilson at HiSoft's tech support and cheers to HiSoft!

Nick Didkovsky
New York, NY

We've read all about and seen the classroom use of Amigas for graphics and sound, but what strikes us, though, is to learn that the Amiga is being used in a computer science class. We wonder now how many schools use Amigas in computer science classes.—PLL

Try Another Laser

For many months now, I've been reading letters in Amiga publications about difficulties desktop publishers are having with the Postscript driver and their Hewlett-Packard printers.

I use a Texas Instruments Microlaser PS 27 model equipped with Postscript and have never experienced a problem with proper print registration. I use Gold Disk's very capable *Professional Page* and routinely print Postscript spreadsheets using their *Professional Calc* program.

There are other laser printers in the world besides Hewlett-Packard. My office uses an HP laser printer. The TI laser, which sits on my desktop, outperforms it in both speed and quality.

Roy Lowey-Ball
San Antonio, TX

A Laptop Amiga?

The Amiga is a unique computer. While some see it as a "dead computer," many who use it see it for what it is. It's an outstanding example of how a small, dedicated group of people can design and bring to market a computer that maximizes the use of the electronic components available at the time of design. The original

Amiga design team did such a good job in designing the hardware that an Amiga with a 6800 can still do things that a 80386 system cannot do well and cannot do at all for the same price. In addition, the Amiga's multitasking operating system outperforms the newer alternatives, such as *Windows 3.1*. *Windows NT* will likely match the Amiga system in many ways but will require huge amounts of hard disk space and RAM.

The major "problem" with the Amiga is that it does not match IBM or Apple "standards." As a practical matter, this means that the Amiga may never become a major player in the general computer market. As I see it, that isn't a problem. The Amiga will still have great advantages in key market areas such as professional video and multimedia. A nice profit can be made by Commodore by serving the market areas in which it can be competitive. No one computer company can supply products that will meet all possible customer needs.

I know of one thing that would increase the acceptance of the Amiga—a portable Amiga model. A laptop Amiga would create great interest in the computing community.

M.B. Boone
Richmond, VA

At a press conference at the WOCA, Pasadena, a CBM spokesperson was asked about a portable Amiga. He noted that at present there was no demand for an Amiga laptop. However, the spokesperson noted that CBM is continuing research on the prospect of a laptop and mentioned that Newer Technologies has been doing R & D on an Amiga laptop for well over a year now.—PLL

•AC•

Readers whose letters are published will receive five public domain disks free of charge. Please write to:

Amazing Computing
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P.O. Box 2140
Fall River, MA 02722-2140

AMAZING COMPUTING

Vol. 6 No. 9, September 1991

Highlights include:

"Bars&Pipes Professional," a review by Phil Saunders
"Frame Buffer Face-Off," an overview of framebuffers, by Frank McMahon

"DynaCADD," a review by Doug Bullard

Plus:

Special reports on Multimedia applications

AND

Super show coverage from Australia and Orlando!

Vol. 6 No. 10, October 1991

Highlights include:

"Art Department Professional," a review of ASDG's powerful program by Merrill Callaway
"ShowMaker," beyond desktop video, by Frank McMahon

"APL and the Amiga," by Henry Lippert

Plus:

An ARexx double feature and a special education section

Vol. 6 No. 11, November 1991

Highlights include:

"Connecting Your Amiga to the Sharp Wizard," by Merrill Callaway

"Epson 300c Flat Bed Scanner," review by Merrill Callaway
"Impact Vision 24," a sneak preview of GVP's powerful 24-bit board, by Frank McMahon

"CSA Mega-Midget Racer," a review of CSA's powerful accelerator board, by Mike Corbett

"Why Should You Use the CLI?" three sound reasons to use the command line interface, by Keith Cameron

Vol. 6, No. 12 December, 1991

Highlights include:

"Audition 4," a review of a great sound sampler package by Bill Frazier

"Draw 4D Pro," a look at ADPSEC's latest update to Draw 4D, by R. Shams Mortier

"Newsletter Basics," a tutorial on how to create professional newsletters using PageStream, by Pat Kaszycki

"AmigaDOS for the Beginner," another look at the basics of AmigaDOS, by Keith Cameron

ALSO: Coverage of AmiEXPO Oakland and the Koln, Germany, show!

Vol. 7, No. 1 January, 1992

Highlights include:

"Memories," A500 memory expansion, by Sam Ammons

"Help for the Help Key," by Rick Manasa

"Getting the most from your RAMdisk," by Keith Cameron

"Installing and Using an IBM mouse with Your Amiga," by Phillip R. Combs

"DePuzzle," a puzzle-solving program for brain teasers, by Scott Palmateer

"ZipTerm," learn how to use Console.device and Serial.device while creating a telecommunications program, by Doug Thain

ALSO: Coverage of Germany's Amiga '91 and London's World of Commodore shows.

Vol. 7, No. 2 February, 1992

Highlights include:

"Deduct That Interest with FC CALC," by Rick Manasa

"Finding the Right Multimedia Fit," by Dave Spitler

"Images in Dentistry," by Ken Larson

"Signmaking on the Amiga," by Karen Pringle

"Perfect Pages," how to produce PostScript-quality pages without buying a PostScript laser printer.

ALSO: Coverage of Toronto's World of Commodore Show

Vol. 7, No. 3 March, 1992

Highlights include:

"The Miracle Piano Teaching System," by Christopher Piper

"DeluxePaint IV," by R. Shams Mortier

"Semi-Automatic Painting and Animation," by Kevin Lude

"Screen Photography," taking pictures of your Amiga screen, by Pat Murphy

Also, a special section on Amiga Graphic Design and a look at some special Amiga Artists.

Vol. 7 No. 4 April, 1992

Highlight include:

"Foundation," a review by Dave Spitler

"AdPro 2.0", review by Merrill Callaway

"ATonce Plus", review by Rich Mataka

Also, construct a database using your favorite authoring system, customize your start-up sequence, and create and produce your own video!

Vol. 7 No. 5 May, 1992

Highlights include:

"Pelican Press", a review of this entry-level DTP package by Jeff James

"ADIDE/40 Amiga 500 Hard Drive Kit", review by Merrill Callaway

"Building an Amiga MIDI Interface", super project by John Iovine

Also: AC's annual Desktop Publishing Overview! This issue includes a look at the top DTP packages as well as a study of printers, fonts, and clip art available for the Amiga.

Vol. 7 No. 6 June 1992

Highlights include:

"Freeze Frame Video Recorder", review by Merrill Callaway

"HP Deskjet Color 500C", review by Richard Mataka

"MREAD", a programming project by Chuck Warden

Plus: Don't miss an exciting edition of our ARexx feature by Merrill Callaway or 3-D animation with DPaint IV in "The Video Slot", by Frank McMahon.

Vol. 7 No. 7 July 1992

Highlights include:

"Modem Rundown", A comprehensive look at modems for the Amiga

"G-Force 040", a review of GVP's 040 accelerator, by Rich Mataka

"SuperJam," a review of this superb music maker from The Blue Ribbon Soundworks, by John Steiner

"FoundEx," a tutorial using Foundation's stacks and scripts, by Dave Spitler

Plus, a look at telecommunications and the Amiga including hardware, software, and services.

Vol. 7 No. 8 August, 1992

Highlights include:

"Digi-View 4.0", by Matt Drabick

"GVP's Digital Sound Studio", review by Matt Drabick

"3D Effects from 2D Amiga Art", tutorial by Shams Mortier

Plus:

Super ARexx Column for July!

Video Toaster UpDate featured in The Video Slot!

And Much More!

Vol. 7, No. 9, September, 1992

Highlights include:

"Professional Calc," review of Gold Disk's premier accounting software by Bill Frazier.

"True Basic 2.0" A review of the latest release of the True BASIC language by Paul Castonguay.

"Developing Desktop Savvy," a special project for your favorite DTP software. Using specialty papers to create brochures and pamphlets, by Pat Kaszycki.

"The Video Slot" This month, learn about the new features of Imagemaster, by Frank McMahon.

Don't miss AC's super game coverage in Diversions.

Vol. 7, No. 10, October 1992

Highlights include:

"Amiga Warrior," Commodore's newest Amiga is a fighter capable of bringing the best of the Amiga to the American consumer.

"MegagameM's CellPro," a review by Merrill Callaway.

"Multi-colored Text in DPaint III," A tutorial to produce dazzling effects with your text, by George Haasjes.

"Game Creation with AMOS," create your own Amiga game, by Jack Nowicki.

Vol. 7, No. 11, November 1992

Highlights include:

"Amiga 4000," Commodore creates a bold new direction in Amiga computing with expanded graphic resolutions, modular CPU, and more.

"Progressive 040/2000," a review by Rick Mataka.

"Remap Magic," Learn why this tool is your best bet for making use of your palette.

"Beginning C," Chue Xiong covers some of the basics of the C language.

AC's TECH

AC's TECH, Vol. 1, No. 4

Highlights include:

"GPIO—Low-Cost Sequence Control" by Ken Hall

"Programming with the ARexxDB Records Manager" by Benton Jackson

"The Development of a Ray Tracer—Part I" by Bruno Costa

"The Varafire Solution—Build Your Own Variable Rapid-Fire Joystick" by Lee Brewer

"Using Interrupts for Animating Pointers" by Jeff Lavin

—and more!

AC's TECH, Vol. 2, No. 1

Highlights include:

"Build Your Own SCSI Interface" by Paul Harker

"CAD Application Design—Part III" by Forest Arnold

"Implementing an ARexx Interface in Your C Program" by David Blackwell

"The Amiga and the MIDI Hardware Specification" by James Cook

—and more!

AC's TECH, Vol. 2, No. 2

Highlights include:

"Programming the Amiga in Assembly Language Part 2", by Forest Arnold

"Implementing an ARexx Interface in Your C Program, Part 2", by David Blackwell

"Iterated functions Systems for Amiga Computer Graphics", by Laura Morrisson

"MenuScript", creating professional looking menus easily and quickly, by David Ossorio

And Much More!

AC's TECH, Vol. 2, No. 3

Highlights include:

"HighSpeed Pascal," by Dabid Czaya.

"PCX Graphics," by Gary L. Fait.

"Programming the Amiga's GUI in C—Part 5," by Paul Castonguay.

"CAD Application Design Part 4," by Forest W. Arnold.

And Much More!

AC's TECH, Vol. 2, No. 4

Highlights include:

"In Search of the Lost Windows," by Phil Burke

"No Mousing Around," hide that annoying mouse pointer with this great program, by Jeff Dickson.

"The Joy of Sets," by Jim Olinger

"Quarterback5.0," a review by Merrill Callaway.

Back Issue Index

What have you been missing? Have you missed information on how to add ports to your Amiga for under \$70, how to work around *DeluxePaint*'s lack of HAM support, how to deal with service bureaus, or how to put your Super 8 films on video tape, along with Amiga graphics? Do you know the differences among the big three DTP programs for the Amiga? Does the ARexx interface still puzzle you? Do you know when it's better to you use the CLI? Would you like to know how to go about publishing a newsletter? Do you take full advantage of your RAMdisk? Have you yet to install an IBM mouse to work with your bridgeboard? Do you know there's an alternative to high-cost word processors? Do you still struggle through your directories?

Or if you're a programmer or technical type, do you understand how to add 512K RAM to your 1MB A500 for a cost of only \$30? Or how to program the Amiga's GUI in C? Would you like the instructions for building your own variable rapid-fire joystick or a 246-grayscale SCSI interface for your Amiga? Do you use easy routines for performing floppy access without the aid of the operating system? How much do you really understand about ray tracing? **The answers to these questions and others can be found in AMAZING COMPUTING and AC's TECH.**

For more
information call
1-800-345-3360

The Fred Fish Collection

Below is a listing of the latest additions to the Fred Fish Collection. This expanding library of freely redistributable software is the work of Amiga pioneer and award winning software anthologist, Fred Fish. For a complete list of all AC, AMICUS, and Fred Fish Disks, cataloged and cross-referenced for your convenience, please consult the current *AC's Guide To The Commodore Amiga* available at your local Amazing Dealer.

Fred Fish Disk 731

FindIt A fully functional file finder. Features include search multiple drives/directories, search for file names starting with/not starting with given text, file names containing/not containing given text, file names ending with/not ending with given text, files created on/after/before/not-on given date, files containing given text, etc. Found files can be copied, deleted, viewed, or printed. Requires Workbench 2.0. This is version 1.0, binary only. Author: Gary Smith

GadToolsBox A program that lets you draw/edit GadTools gadgets and menus and then generates the corresponding C or assembly code for you. This is version 1.4, an update to version 1.3 on disk 659. Includes source. Author: Jan van den Baard

QMouse An unusually small and feature-packed "mouse utility". Was inspired by, but not derived from, the original QMouse by Lyman Epp. Features include automatic window activation (like WindX), top-line blanking for A3000/A2300 users, system-friendly mouse blanking, mouse acceleration/threshold, "Pop-CLi", click-to-front/back, "SunMouse", "NoClick", "WildStar", Northgate key remapping, and more. Requires Kickstart 2.0, but is not a commodity. Only 3K. Version 2.0, an update to version 2.1 on disk 697. Public domain, assembly source included. Author: Dan Babcock

Fred Fish Disk 732

FontViewer A program to view fonts. Features include selectable screen resolutions, outline font support (WB 2.0), ColorFont support, up to thirty fonts shown at once with each in its own window, up to three lines of changeable text for viewing fonts, use file requester to find fonts to view (WB 2.0). Version 1.2, binary only. Author: Gary Smith

MPE A compiler tool for users of the M2Amiga programming environment. MPE does the same job better than your batch file. You can do everything with the mouse or the right amiga key. With this Modula-2 Programming Environment you can compile, link, and run your program. When there is an error, the editor is started automatically. You can set all switches for M2C, M2L, M2Make, M2Project, and M2LibLink. This is version 1.31, an update to version 1.17 on disk 703. Binary only. Author: Marcel Timmermans

PSUtils Some utilities for postscript and adobe fonts. Resettadobe (version 1.0) is a program to modify the AFM files of adobe fonts which do not appear to have the correct spacing after being generated by AFM2PFM. Postsplit (version 1.0) is a program to split a color PageStream postscript file into individual colorpage files for multipass printing. PFM2AFM (version 1.0) generates AFM files for adobe fonts. TTutils is a set of adobe font manipulation tools including a font disassembler. Author: J. Parker, D. Spencer, Ken Borgendale, Lee Hetherington

Riff A little file reader written in M2Amiga Modula-2. Version 1.0, includes source. Author: Marcel Timmermans

RTracker A MOD player that is small, easy to use, highly configurable, follows CBM's style guide, supports automatic decompression of MODs, and more. Version 2.0, shareware, binary only. Author: Mike Manzano

Fred Fish Disk 733

AntiCircV A link virus detector that detects 25 different such viruses. Version 1.6, an update to version 1.5 on disk 710. Shareware, binary only. Author: Matthias Gutt

Cube An animated Rubik's Cube simulator, solver, and tutorial. It uses two solving algorithms, one which can be applied by a human using simple rules, and another that is too complicated to be used except by a computer. Shareware, includes source. Author: Martin Giselton

Sushi A tool to intercept the raw serial output of Enforcer 2.8b, Enforcer megastack 26.1, Mungwall, and all other tool and ap- plication debugging output that uses kprintf. This makes it possible to use serial debugging on a single Amiga, without interfering with attached serial hardware such as modems and serial printers. Sushi also provides optional signalling and buffer access to an external display/ watcher program. Version 37.7, binary only. Author: Carolyn Schepner

Termcap A port of the GNU termcap library for the amiga. Termcap is a library of C functions and a database of terminal descriptions, that allows an application to send control strings to terminals in a way independent of the specific terminal type. Author: Various

Fred Fish Disk 734

PowerVisor A powerful machine language debugger and system monitor designed for the serious Amiga programmer. PowerVisor supports all Amigas and all processors (including the 68040). There are two versions, one for AmigaDOS 2.0 and one for AmigaDOS 1.3 (or 1.2). Among many other things, PowerVisor supports symbols and ARexx (with 215 different ARexx commands). It is also very customizable. The AmigaDOS 2.0 version supports online help with 'AmigaGuide' and is installable with the 2.0 Installer. This is version 1.20. Source for some examples is included. PowerVisor is shareware. Registered users can order the complete PowerVisor source. This is part 1 of a two part distribution. Part 2 is on disk 735. Author: Jorrit Tyberghein

UCD A utility for changing the current directory that scans a disk and builds a file containing information about the directory structure that makes it possible for UCD to change directory to any directory in the scanned volume by simply naming the directory without pathname information. Version 1.0, shareware, binary only. Author: Uffe Holst Christiansen

Fred Fish Disk 735

PowerVisor A powerful machine language debugger and system monitor designed for the serious Amiga programmer. PowerVisor supports all Amigas and all processors (including the 68040). There are two versions, one for AmigaDOS 2.0 and one for AmigaDOS 1.3 (or 1.2). Among many other things, PowerVisor supports symbols and ARexx (with 215 different ARexx commands). It is also very customizable. The AmigaDOS 2.0 version supports online help with 'AmigaGuide' and is installable with the 2.0 Installer. This is version 1.20. Source for some examples is included. PowerVisor is shareware. Registered users can order the complete PowerVisor source. This is part 2 of a two part distribution. Part 1 is on disk 734. Author: Jorrit Tyberghein

Fred Fish Disk 736

EasyStart A program to start other programs in a very easy way. It can start programs with a popup menu, a popup screen, with menu items in the WorkBench menu, with a window containing gadgets, and more. Version 1.12, binary only. Author: Andreas Krebs

InTime A program to overlay a "timecode" onto videotape while making working dubs of original footage. The display consists of a tape number, hours, minutes and seconds. It is designed to be used as aid in logging and finding sections of a video tape. The display can be in any shown in any font. This is version 1.2, binary only. Author: Gary Smith

MegaD A directory utility with multiple directory windows so you may copy from multiple sources to a single destination, copy from one source to multiple destinations, or copy from multiple sources to multiple destinations. Full font support, full screens support, application icons, application menus and application windows support. Includes 126 page tutorial and 47 page user guide. Other features include 72 user defined command gadgets with simple keyboard equivalents, and multiple filters on directory listings. Version 2.00, binary only. Author: John L. Jones

Fred Fish Disk 737

AMPlotDemo A demonstration version of a commercial graph plotting program designed for publication quality plotting of scientific data. The demo allows datasets no larger than 10 datapoints and will not create hard copy plots. Version 2.0, binary only. Author: Andrew Martin, SciTech Software

ANSI A small CLi utility to convert C source between ANSI and Kernighan and Ritchie function definition formats. Also allows generation of prototypes. No Amiga extensions and should be portable. Version 1.6, an update to version 1.0 on disk 598. Includes C source. Author: Andrew Martin, SciTech Software

DBuff Source code with a small demo to implement double buffering by adding a second ViewPort to an intuition screen. Version 1.3, an update to version 1.0 on disk 599. Includes C source. Author: Andrew Martin, SciTech Software

PrLabel A utility to print laser printer labels. Support 3x8, 2x8 and 2x7 A4 label sheets. The program may easily be modified for other formats. Also serves as a demonstration of using STSLib for gadgets and menus. Version 1.2, an update to version 1.1 on disk 599. Includes C source. Author: Andrew Martin, SciTech Software

Fred Fish Disk 738

CanonBJC Color printer driver package for Canon BJC 800 and Canon Epson emulation printers. Supports Epson 24/48 pin and BJC emula- tion compressed native mode. This driver is not limited to 16/4096 shades/colors. Includes font independent preferences programs for controlling additional options, free definable other routines (many are included), ink compensation, color adjustment, timeout, and more. Version 1, binary only. Author: Wolf Faust, Distribution by Canon Europe N.V.

CanonStudio Prints IFF pictures from disk in 24 bit accuracy on normal WB printer driver. Pictures can be printed in any size (poster function) without need for much memory. Supports most IFF formats (incl. EHB, HAM6, HAM8, IFF24). Provides a nice font independent user interface, free definable ordered

dithers, error diffusion and blue noise dithers, ARexx inter- face, color adjustments, ink compensation, printer spooler and more. This version is limited to Canon printer drivers. Version 1.2, shareware, binary only. Author: Wolf Faust

Galaga A space "blast-em" game with over 300 different animation frames in 16 colors, many levels, end of stage nasties, bonus levels, kamikaze raids, etc. Version 1.4, binary only. Author: Geert Colmout and Romain Voes

Fred Fish Disk 739

Delt A program to change the default tool of project icons. Will search through a disk or directory, finding all icons that contain a specified default tool and change that tool to a different one. It is useful for changing the default tools of all the doc files on disk to your favourite text reader, for example. Version 1.0, binary only. Author: Gary Smith

Hyper Will lead you through documents that are written to be used with the legendary 'Am'ga'Gu'de' from Commodore. An ARexx port gives access to it from other applications. Requires OS 2.0. Version 1.0, shareware. Author: Bernd (Koessl) Koessling

IconAuthor A replacement for IconEdit2.0. It can transform IFF images or brushes into resized 2-BitPlane brushes or icon files that match the WorkBench2.0 colors. Online help is available via 'Hyper'. Demo version limited to processing provided demo image only. Requires OS 2.0. Version 1.0, shareware, binary only. Author: Bernd (Koessl) Koessling

InScript A program for producing video titles. Features include fully editable text entry, IFF pictures as background, unlimited number of fonts loaded at one time, up to 99 undos, outline font support (WB 2.0), text styles (shadow, outline, etc) can be named and saved, toolbar for common operations, playback script maker with transitions between pages, adjustable color cycling, low, high and interface resolutions with overscan, adjustable kerning, and comprehensive text alignment options. InScript can save InScript data, IFF pictures or animation files. At least 1 mb memory required. Version 1.1, shareware, binary only. Author: Gary Smith

Keti Prints 3.5" disk labels (71.5 x 69.6 mm) on a NecP6 from a 15 line ASCII file. The first line will be the headline (max 25 chars), 14 textlines (max 44 chars) may follow. Requires OS version 2.0. Includes source and DME macros. Author: Bernd (Koessl) Koessling

WKSC Workbench Keyboard Shortcut Changer is a program which allows you to add or change keyboard shortcuts used for the Workbench menu. WKSC works on Workbench 1.2, 1.3 and 2.0. This is version 1.0, binary only. Author: Gary Smith

Fred Fish Disk 740

Debt A calculator suitable for dealing with numbers the size of the national debt. Will accept two 60 digit numbers and come up with a 120 digit answer. Includes source. Author: Martin Giselton

HDMem Demo version of software that allows you to use virtual memory with OS2.0 version 37 x or higher, on m68020/m68851 or m68030 amegas. Supports task exclusion. The demo version is limited to 2Mb of virtual memory. Version 2.0, shareware, binary only. Author: Stefan Rompf

Klondike A single player card game. Version 1.3, an update to version 1.1c on disk 491. Shareware, binary only. Author: Peter Wiseman

MemCheck A small tool to watch the first 1000 bytes of memory for illegal write actions. It also checks some system vectors (clock-capture, clockcapture, warmcapture, kickMemPtr, kickTagPtr and kickCheckSum) to show any changes made by viruses. Kickstart 1.3/2.0 compatible. Version 1.0, binary only. Author: Tom Kroener

MultiClock A flexible titelbar clock commodity with many extra features such as chime with builtin or digitized sounds, alarm which allows launching an ARexx or Batch file, and both digitised and narrator speech to say the time. Requires AmigaDos 2.04 or greater. Version 1.17, binary only. Author: Hugh Leslie

PerfMonitor A small tool to show the CPU usage of each task. Kickstart 1.3/2.0 compatible. Version 1.0, binary only. Author: Tom Kroener

Fred Fish Disk 741

BioComp A program that computes the biorthhythmic compatibility of two persons. Uses an intuition interface and allows the printing of the results. Version 1.13, binary only. Author: Gérard Cornu

RKRM_Lib1 Part one of a four part distribution of complete source code and executables of all the examples in the third edition Amiga ROM Kernel Reference Manuals, published by Addison-Wesley. Part two is on this disk and parts three and four can be found on disk 742. Author: Commodore CATS

RKRM_Lib2 Part two of a four part distribution of complete source code and executables of all the examples in the third edition Amiga ROM Kernel Reference Manuals, published by Addison-Wesley. Part one is on this disk and parts three and four can be found on disk 742. Author: Commodore CATS

Shell2Front A simple, small and pure utility to be launched by a hotkey. It brings to the front, the first shell window it finds, including its screen. Version 0.12, binary only. Author: Gérard Cornu

ShowI A CLi tool which displays all given icons in the original OS 2.0 look. It opens a little window

displaying the icon where you can select and deselect it. By pressing 'n' the next one is displayed. This is version 1.9. FreeWare, binary only. Author: Hans-Peter Guenther

Size A small and pure shell utility giving the size in bytes, blocks, and the total size occupied by a directory, file or device. Accepts multiple arguments. Version 0.20, binary only. Author: Gérard Cornu

Fred Fish Disk 742

AList A CLi command that lists the length of every file and the REAL length of every subdirectory in Bytes, KBytes and MBytes. Version 1.0, includes source in C. Author: André Wills

ColorSwitch A little program to switch between WB1.3, WB2.x and user preference palettes. Requires Kickstart 2.0 or higher. Includes source in C. Author: Martin W. Scott

CloseWD A tool which enables you to kill windows which are left on any screen from other programs, which have been terminated by gurus or pattern matching in the string gadget or by setting a timeout that gives you time to select the proper window. It has a gacools interface and an "ask-before-closing" option. Version 1.2, OS 2.xx only. FreeWare, binary only. Author: Hans-Peter Guenther

ICalc A powerful calculator with many features, including user de- fined variables and functions, C-style programming constructs, complex number calculations and more. Has comprehensive instructions, and numerous examples. This is version 2.1, an update to version 2.0 on disk 655. Enhancements since previous version include base-conversion facilities and scripts to perform numerical integration. Binary only, source available from author. Author: Martin W. Scott

KeyClick A small utility to provide a key-click. Has a nice Workbench interface to modify settings. Requires Kickstart 2.0 or high- er. Binary only. Author: Martin W. Scott

Pal A small utility to help applications open their own PAL screen on an NTSC Amiga with ECS. It requires Workbench 2.0. In- cludes sources in C and assembly. Author: Eric Gontier

PatchLace A commodity for Workbench 2.0 that makes all interlaced screens open in NTSC mode, thereby reducing flicker. Requires Kickstart 2.0 or higher. Binary only. Author: Martin W. Scott

RKRM_Lib2 Part three of a four part distribution of complete source code and executables of all the examples in the third edition Amiga ROM Kernel Reference Manuals, published by Addison-Wesley. Part four is on this disk and parts one and two can be found on disk 741. Author: Commodore CATS

RKRM_Lib3 Part four of a four part distribution of complete source code and executables of all the examples in the third edition Amiga ROM Kernel Reference Manuals, published by Addison-Wesley. Part three is on this disk and parts one and two can be found on disk 741. Author: Commodore CATS

SetPrefs A CLi command which activates a system- configuration. Useful when different prefs are created (i.e. for the printer) and you don't want to continually change your existing system configuration. Version 1.0, includes source in assembly. Author: Michael Wilkes

Fred Fish Disk 743

ClickRun With the help of ClickRun you can start fifty programs by a simple mouse click. Has a build in editor, online help and iconification. Supports keyboard and mouse. English and German documentation. Version 1.0, binary only. Author: André Vogt

FoCo Format controller. A graphical user interface for disk for- matting. Pops up on disk insertion or via hotkey. Version 1.2, an update to version 1.1 on disk number 566. Requires OS 2.0. Includes source. Author: Michael Balzer

FRRequest FRRequest is a handy program which lets you select a file by using the ASL file requester and executes a CLi command with the given selection. FRRequest can be easily used in batch files and has a lot of options. You can use it as a front end for any program which does not support file requester select- ions. It exchanges ']' in the specified command line with the selection. It has a debug utility that allows testing of options before execution. This is version 1.5, OS 2.xx only. FreeWare version, binary only. Author: Hans-Peter Guenther

LoadLibrary Another LoadLib program, but this version runs in it's own task, and uses the retools.library for multiselection and other user friendly file handling. All installed LoadLib libraries can also be removed from the system. Version 2.52 for OS 2.0 use. FreeWare, binary only. Author: Nils Görs

Look A very powerful program for disk magazines. Supports IFF pic- tures, IFF brushes, ANSI, fonts and many more features. Pro- grammed in assembly language to be short and fast. Available only in German language and PAL. Version 1.2, shareware, bi- nary only. Author: André Vogt.

MegaEd A powerful text editor with lots of features, some not found elsewhere. Integrated Text oriented database, extensive for- matting/printing functions, macro language, AReXX-port, key- word indentation, multiple blocks/marks, keymenu macro record- ing, configurability for lot's of languages/compilers, numer- able handy functions for programmers, user friendly interface. Version 1.5, public domain, binary only. Author: Wouter van Oortmerssen

TurboDEX A compiler for the DEX language. DEX is a language similar in structure to Modula2 and C, but different and simpler in concept. Features include compact and fast executables, clear program structure, integration of Exec/Dos/Glx/Intuition library calls in the compiler, inline assembly, register variables, commented assembly source output, easy to manage development system, and more. Version 1.2, an update to version 1.1 on disk 625. Public domain, binary only. Author: Wouter van Oortmerssen

Fred Fish Disk 744

AutoRunner Automatically executes a CLI command line when you insert a disk into a drive. All you do is put a special tag at the beginning of a comment in the disk's root directory. After the comment tag, you put a normal CLI command line. AutoRunner then executes this command when the disk is inserted. Version 2.0, Pascal source included. Author: Jonathan Maxwell

FO CLI based Fast Optimizer for AmigaDOS disks. It can optimize one disk in less than 2 min, 30 sec. Allows optimization for CLI or WorkBench usage, and allows you to use unformatted disks as the destination. At least 1 Mb memory required. This is version 1.3, an update to version 1.0 on disk 537. Binary only. Author: Fabien Campagne

FO2 Intuition-based version of FO, will run on a single drive machine. Includes multiple destinations, automatic turn on upon disk insertion and more. Requires 1.5M or more of memory. This is version v2.5, includes source. Author: Fabien Campagne

Hextract A complete header file reference. Definitions, structures, structure members and offsets, flag values, library contents, function definitions, registers, library offsets, etc. The data from a set of V1.3 Amiga and Lattice header files is packed into the included file "headers.z" for immediate reference by Hextract. Version 1.2, an update to version 1.1 on disk 674. Freeware, includes partial source. Author: Chas A. Wyndham

IList A simple list program which displays the data of all open screens and their connected windows. OS 2.xx only. Version 0.1, PD, includes source. Author: Hans-Peter Guenther

NFD Newest File Date. Searches the specified directory for the newest file, then returns that filename and path as an ARP global variable. For people without ARP, it allows you to execute a command line, specified as a parameter, with the file name and path inserted at a specified point. Sample usage would be to have a word processor automatically load the last file worked

on when it was invoked. Includes source in Pascal Author: Jonathan Maxwell

P-index A program for creating active index/selector pages to replace the normal window/icon display. Appearance of pages is only limited by the capabilities of your paint program and your imagination. Index items can be shown as arrays of boxes (as with current "selector" programs), or as icon look-alikes, or anything else you fancy, with normally a large saving in disk space. Freeware, binary only. Author: Chas A. Wyndham

P-Reader An all purpose reader that displays texts, pictures, animations and sounds, which may be uncompressed or compressed with P-Compress. Texts can include embedded static or animated illustrations and sounds. This is version 6.2, an update to version 5.2 on disk 595. Freeware, binary only. Author: Chas A. Wyndham

Statistics Provides statistical data on ASCII text files regarding file length, number of letters, words and sentences, average word length, etc. Written in assembler for minimum size and maxi- mum speed. Version 1.26, binary only. Author: Nico Max

Fred Fish Disk 745

ARexxBox ARexxBox, inspired by the GadToolsBox by Jan van den Baard, is a tool which greatly simplifies the design and implementation of an ARexx interface for a program. Provides a graphical in- terface in which to enter the command arguments and results, then creates the C source; one module containing necessary basic functions and another containing the interface stub rou- tines to which you only have to add your code to. This is version 1.00, binary only. Author: Michael Balzer

BBBBS Baud Bandit Bulletin Board System. Features include up to 99 file libraries with extended filenotes, up to 99 fully thread- ed message conferences, no inherent limits on number of users, files, or messages, controlled file library and message confer- ence access for users and sysops, interface to extra devices like CD-ROM and others (treated as read only), complete Email including binary mail and multiple forwarding, user statistics including messages written, access time, total files uploaded or downloaded, plus much more. Version 5.5, an update and bug fix to version 5.4 on disk 729. Binary only. Author: Richard Lee Stockton

WizKey A commodity that speeds up working with windows and screens via allowing the user to manipulate them via keyboard instead of mouse. Anything you can do with system gadgets becomes accessible via keyboard. Popup windowlist allows activation of any window by keyboard or mouse. Configurable Hotkey definitions and a complete ARexx port. Shareware, binary only. Author: Jörg von Frantzius

Fred Fish Disk 746

ATbl A program for table formatting, somehow inspired by the "tbl" utility on UNIX systems. Can produce a printer output (with IBM semi-graphic characters) or a regular IFF file which can be read by any

decent word-processing or desktop-publishing program. Both French and English documentation. V2.20, update to V1.00 on FF563, with a lot of bugs fixed and a few enhancements. Binary only. Author: Denis Gounelle

KCommodity Multifunctional commodity for OS 2.0.

Includes window- activator, time-display in several modes and formats, alarm function, KeyStroke- Clicker, time to environment, Window/ Screen cycling, LeftMouse, ESC-Key can close Windows, Revision Control System, telephone bill calculator, Screen-/Mouse-Blanker, Mapping of german "Umlauts", PopUp Shell, Applcon support, LeftMouse, user definable HotKeys. Fully controllable via ARexx-Port. All settings can be customized and saved to disk. V2.00, update to V1.75 on FF673. Requires OS 2.0. Written in assembly for speed and efficiency. Shareware, includes source. Author: Kai Iske

Skew Skeleton Writer is a tool for generating C code for various Intuition based applications. You click the mouse and the code gets written. Similar to PowerSource and GadToolsBox, but with slightly different functionality. V1.2, update to V0.85 on FF658. Includes source. Author: Piotr Obminski

Fred Fish Disk 747

ADoc New version rewritten from scratch, of a help utility for the Amiga which allows you to have permanent help on any subject you want. Features include automatic search of any word on which you clicked, intelligent term requester, ability to use Commodore "AutoDocs" files and any nonproportional font, an AREXX port, and more. Both French and English versions. This is ADoc2 version 1.21, an update from ADoc 7.05 on disk 627. Binary only. Author: Denis Gounelle

APrI A printing utility for the Amiga. Features include full In- tuition interface, preview function, page selection, margin setup, line numbering, an AREXX port, a multi-columns mode, 2.0 system release support and more. Both French and English versions. This is version 1.40, an update from version 1.30 on disk 706. Binary only. Author: Denis Gounelle

AUSH A command line interpreter for the Amiga. Features include file name completion, pattern expansion, expression computa- tion, command history, for...done loops, full support of AmigaDOS 2.0, and much more. Almost fully compatible with ARP and Commodore shells. This is version 1.52, an update from version 1.42 on disk 706. Binary only. Author: Denis Gounelle

Fred Fish Disk 748

DellTracker A powerful and system friendly music player. Features include configuration files, GUI, full ARexx control, flexible player interface and xpk support. DellTracker will play all popular sound modules available on the Amiga. Currently it supports over 40 different module formats. The most important players (PT/ST/NT) are internal. Additional players (like MED, 8SVX, SMUS, ...) may be loaded from disk. Includes the source of nearly all external "delplayers". Version 1.30, shareware, binary only. Authors: Peter Kunath and Frank Riffel

Fred Fish Disk 749

AmokEd A highly configurable editor based on Matt Dillon's well known DME. Features a rich command language, an ARexx interface and ARexx based application port, environment variable support, user definable pull down menus, fast scrolling and scroll gad- gets, multiple file editing, iconification, reentrancy and can be made resident. Written in Oberon, version 1.30, binary only. Requires AmigaOS2.0 or higher. Author: Hartmut Goebel

LogMan The Log Manager allows you to manipulate your log files to a greater degree than other log managers. LogMan operates on a personalized script file. You can insert a call to LogMan in your startup-sequence or in your "mail" script. LogMan will call the script and check certain parameters. Requires kickstart 1.3 or 2.0 to operate. Version 1.003, freeware, binary only. Author: Bob Rye

PaperBack Allows the user to generate a double sided document from a single sided one. Two output documents are created: an ODDS set and an EVENS set. The odds set can be printed on single sheet or tractor feed paper, reversed and re- inserted in the printer, then the even set can be printed on the reverse side. Page sizes are all fully editable by the user, along with cer- tain other parameters. Handles predefined page breaks elo- quently. Saves paper, and storage space. Requires kickstart 1.3 or 2.0 to operate. V2.004, freeware, binary only. Author: Bob Rye

PED A source text editor which supports all important standard editor commands. It accepts mouse and keyboard commands, and will run from CLI and from Workbench. PED doesn't use the op- erating system for outputs and scrolls very fast. Version 2.30, binary only. Author: Frank Wille

PhxAss A MC68000 Macro Assembler which supports includes, incbin, include data and small code model, optimization, 12 arithmetic operations, relocatable and absolute code, floating point equates and nearly all standard assembler directives. PhxAss can be used from CLI only. Version 2.11, binary only. Author: Frank Wille

PhxLnk An Amiga D-20 Linker which is very small (7 KB) and processes the small-code/data model. It does not support overlay hunks in the current version. PhxLnk can be used from CLI only. This is version 1.27, binary only. Author: Frank Wille

VoiceEditor A tool to edit, save, load, and convert instruments of Roland D-20 Synthesizers (and compatibles, like D-10) via MIDI. You can convert instruments into Music-X sequences, save and load voiceclumps and edit the system area of your D-20. Req. library and midi.library are used and included. V2.0, binary only. Author: Andre Willems

ZipWd ZipWd is a little example code of the new OS 2.xx feature of zipping windows. It does the same thing as clicking on the window's ZipGadget. It's also useful if you define a keyboard macro with ZipWd. Requires AmigaOS 2.xx. Version 0.5, public domain, includes source. Author: Hans-Peter Guenther

Fred Fish Disk 750

AddIcon A useful tool that copies icons to a given file or directory. It supports pattern matching and has various options. It first looks at the suffixes of the files and for chunks to identify their types, then it copies the right type of icon to the files. These icons should be located in the Icons: drawer. Contains all needed icons. OS 2.xx only. FreeWare version 1.7, binary only. Author: Hans-Peter Guenther

CFX

Crunched File eXaminer allows the user to examine and find files using several different search criteria. CFX knows a huge amount of the current Amiga filetypes, including a vast number of "cruncher" types. CFX can also give in-depth dis- assemblies of crunched files, including most address crunched files, relocater crunched files, and some major archive crun- ched types. This version requires kick 1.3 or 2.0. Version 5.242, freeware, binary only. Author: Bob Rye and Marcus Mroczkowski

Create

A replacement for the "makedir" command. It can create dir- ectories and files. Useful for some editors and other pro- grams that allow you to you define a file to load at start- time. In this case files can be created before calling these programs that usually give you nervous requesters on non- existing files. It accepts multiple files and directories, and is also useful for batchfiles. OS 2.xx only. This is version 1.1, freeware, binary only. Author: Hans-Peter Guenther

DockBrushes Two PAL pictures containing brushes to be used with AmiDock (Shareware program by Gary Knight), or other such utilities. One is in hi-res (640 x 256 2 bit planes), the other in hi- res interlaced (640 x 512 2 bit planes). Author: Gérard Cornu

ExecMaster A tool that allows you to start scripts, programs and rex scripts in different ways. You can optionally specify an out- put. This could be a file or even a window. It has the abil- ity to iconify and a full gadttools user interface with key command support. It fully supports PublicScreens. OS 2.xx only. Version 1.7, freeware, binary only. Author: Hans-Peter Guenther

FontView A commodity to display a table of characters of any Amiga font, which is chosen by a font requester. The characters are clickable to show you the ASCII value and the key combination to press. With AmigaOS 2.1 a localization takes place (cur- rently German and French). Version 1.2, includes source. Author: Dieter Temme

SaveW SaveW is the counterpart of SizeW. It saves the current win- dow coords to a file (if given) or to STDOUT. Includes some useful shell aliases. OS 2.xx only. Version 1.3, freeware, binary only. Author: Hans-Peter Guenther

SizeW SizeW is a tool that lets you change the size and the place of the currently active window. You can specify coords from commandline or optionally from a file. This is a companion to SaveW. Includes some examples in the docfile. OS 2.xx only. Version 1.5, freeware, binary only. Author: Hans-Peter Guenther

SplitQ Opposite of the AmigaDos 'JOIN' command. A portion of the file specified by offset from the beginning and length is saved to a new file. The syntax is like the BASIC function MID\$(). Parts can be rejoined with the 'JOIN' command. Version 1.1, includes source. Author: Dieter Temme

Stript A programming utility that strips all kinds of comments from given source code of all programming languages. It is con- trolled by a config file which includes the rules of the comment chars. Some configuration files included. OS 2.xx only. Version 1.3, freeware, binary only. Author: Hans-Peter Guenther.

To Be Continued.....

In Conclusion

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And furthermore...

Harry O. Morris, Amiga Artist

by Merrill Callaway

"That picture's horrible, Harry," I say. My friend, Harry Morris, sighs wistfully, "Do you really think so? Gosh, thanks a lot. Thanks, I appreciate that." Harry O. Morris is pleased by my comment because he's a name artist in the world of horror publishing. He does cover pictures for Dell Horror

books, and he composes his eerie concoctions on an Amiga 2000 equipped with a Toaster, a Firecracker 24, DCTV, and a GVP accelerator. He also uses *ADPro*, *Imagemaster*, *Light24*, DCTV, Toaster's *Framegrabber* and *FX*, and an Epson ES-300C scanner; and outputs to a Polaroid Freeze Frame video film recorder, or one of two Mitsubishi Video Printers. You probably think of Harry as a real technical whiz considering all this sophisticated equipment, but believe it or not, Harry asked me over to his gothic, turreted, iron-picket-fenced house—on Elm St., no less—to install his newest Art Department upgrade! They have the easiest installation

on the Amiga; yet if it's just the computer, Harry balks. He considers it too complicated; but if it involves art, then it's different, and the maze of video cables and monitors and VTRs and copy stands with skulls on top are merely brushes and paints to him. Harry uses the Amiga intuitively. He makes no bones, except in his Amiga, about being "computer illiterate."

Harry Morris is shy. He was once guest of honor at a Science Fiction Writer's convention. His keynote speech consisted of 10 full minutes of silence and frantic fidgeting, ended by a timid, "Are there any questions?" I met Harry at a local user's group, and recommended a scanner to him when he bashfully asked my advice. Later, he asked me over to glimpse his rarely visited house. Accompanied by his wife, Christine, and black cat, Creeper, the leader of this Addams Family on Elm Street cheerfully described to me the grisly, unprintable history of their house, and showed off their collection of bizarre books and relics. Harry is prolific. "I just do art like a shotgun: bang bang bang," he says. "Once in a while I do something good." My problem isn't finding a picture of Harry's that I think shows talent. It's finding one that doesn't scare me too much. I told Harry I didn't think I could stand to be inside his mind even for one minute. "Thaaanks," he breathed a sigh of relief. "Maybe you could put that in your article."

•AC•



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COMMODORE 128

1986 - PC10 III/PC 20 III/PC 40

1987 - AMIGA 500/AMIGA 2000

1988 - AMIGA 2500/PC 40 III/PC 60

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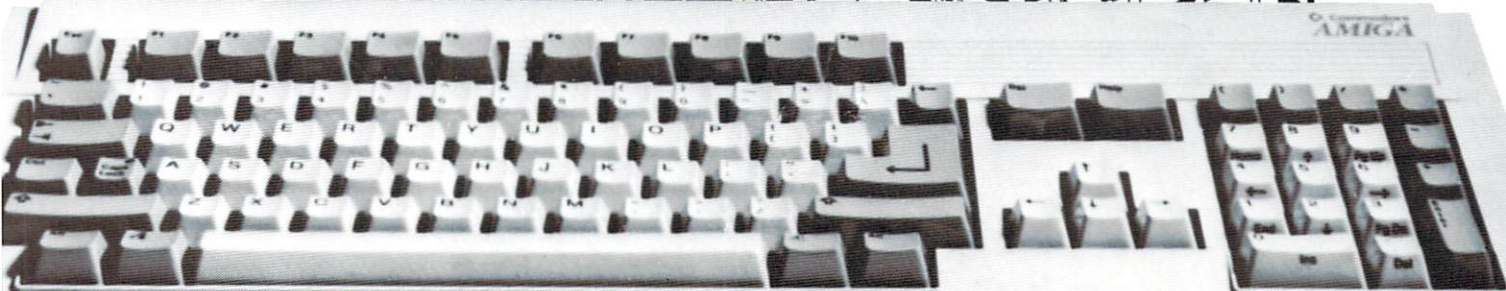
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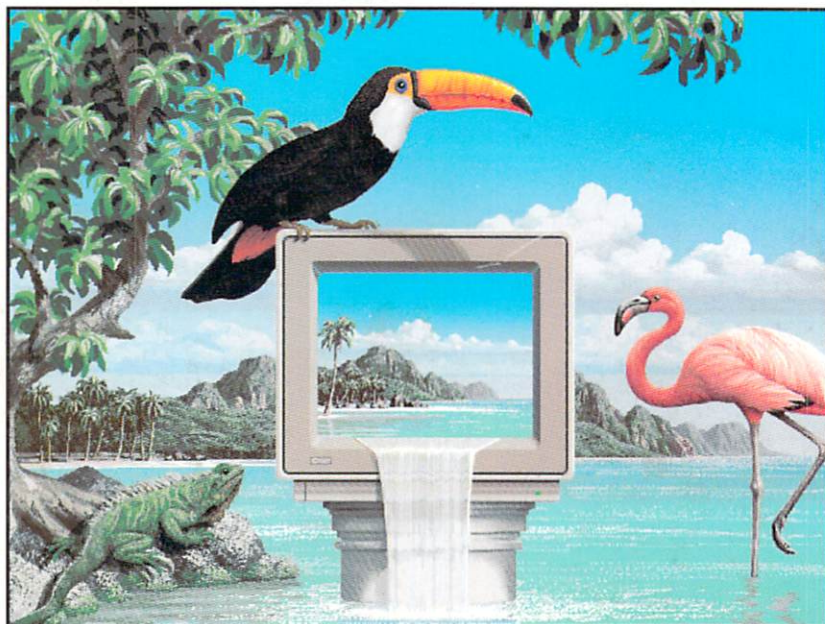
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